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8 August 1980

Worldwide Report

NUCLEAR DEVELOPMENT AND PROLIFERATION

No. 55

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DELHI REPORTS CARTER'S ORDER TO SHIP URANIUM

Congress To Act Within 60 Days

BK191612 Delhi Domestic Service in English 1530 GMT 19 Jun 80

[Text] U.S. President Carter today signed an Executive order approving the pending shipments of enriched uranium to India for Tarapure nuclear powerplant. The order will have to go before the Congress, which will have 60 days under the statute to reject or ratify it. The president's decision authorizing the shipment was formally conveyed to the Senate Foreign Relations Committee early today by Deputy Secretary of State Warren Christopher. A State Department statement stressed the importance of the move for political as well as nonproliferation reasons. It said the supply was necessary to strengthen U.S. relations with India.

President Carter had already informed Prime Minister Mrs Gandhi of his decision to issue the Executive order using his executive powers after the Nuclear Regulatory Commission referred to the matter back to him. The commission, however, took the view that the supplies after the cutoff date will be in violation of the U.S. nuclear nonproliferation act. Some congressmen have already announced their decision to oppose the nuclear shipment.

Carter's Action Welcomed

BK201551 Delhi Domestic Service in English 1530 GMT 20 Jun 80

[Text] India has welcomed U.S. President Mr Carter's order approving shipments of enriched uranium for the Tarapur plant. An official spokesman in New Delhi said today that India awaits further developments.

The spokesman denied U.S. Senator Mr Alan Cranston's reported assertion that India tried to blackmail Washington into giving the fuel.

India only wants the United States to meet its obligations under our bilateral agreement on Tarapure. There should be no apprehension about India's firm commitment to peaceful use of nuclear energy, he added.

CSO: 5100

AUSTRALIANS OPPOSED TO U.S. NUCLEAR WASTE DISPOSAL PLAN

Idea Called 'Irresponsible'

OW301727 Melbourne Overseas Service in English 1130 GMT 30 Jun 80

[Text] The deputy director of the Australian Conservation Foundation, Mr. (Douglas Hill), has said the federal government should seek full details of a possible United States plan to dump high-level nuclear waste in the Pacific Ocean. Mr (Hill) was commenting on a report that a research ship from America's Columbia University had investigated a possible nuclear waste disposal site northeast of Guam. Mr (Hill) said that with the uncertainties and dangers of dumping the material into the Pacific, the idea was irresponsible and ought to concern all countries in the region. If the waste leaked from their containers, there was no knowing where the material would be carried by currents.

Meanwhile, the federal opposition spokesman on urban and regional affairs, Mr Uren, said the Pacific was in danger of becoming a nuclear dumping ground. Mr Uren said the Americans were looking at disposal of their nuclear waste in the Pacific and the Japanese had announced a plan to start trial dumping next year. There were also the continuing French nuclear tests at Mururoa. Mr Uren said it was disturbing that the federal government had been silent about these developments. He accused the government of being more interested in selling uranium than in taking a stand against dumping nuclear waste.

Newspaper Comment

OW301725 Melbourne Overseas Service in English 0720 GMT 30 Jun 80

[From Australian editorial opinion program]

[Text] The national daily, THE AUSTRALIAN, comments on reports that the United States is investigating the possibilities of dumping high-level nuclear waste beneath the floor of the Pacific. The paper says the news will not be reassuring to the small island nations who for years have strenuously opposed any kind of nuclear activity in the region, and Australia, as a not so small Pacific nation and one with more international clout than most, has a duty to monitor the proposals very carefully indeed.

The editorial continues that uranium has a vital role to play as a source of creating jobs, wealth and much needed energy. In addition, says the national daily, sensible, meticulous research into the safest method of disposing of the potential killer--that is, radioactive waste--is to be applauded. But to spring news of seabed disposal tests on a host of small, so often disregarded Pacific nations is neither sensible, sensitive nor politic, concludes THE AUSTRALIAN.

CSO: 5100

WEST ASSAILED FOR PROCRASTINATION IN TALKS ON NONNUCLEAR STATES

LD021341 Moscow NOVOYE VREMYA in Russian No 25, 20 Jun 80 pp 5, 6

[Article by K. Yurin: "Guarantees for Nonnuclear States"]

[Text] Recently, many states not possessing nuclear weapons have been expressing concern for their own safety with increasing frequency. And there are good reasons for this. Under conditions where huge stocks of mass destruction weapons have been accumulated and new and increasingly destructive systems are being constantly added to them, when the world is inflamed by relapses into dangerous tension which threatens to turn into worldwide conflict, no country and no people can feel themselves secure.

It is obvious that states which abstain from producing and acquiring nuclear weapons and do not allow them to be deployed on their territory are in a special position.

Do any guarantees exist specially to protect the security of nonnuclear states? There are such guarantees. They are contained, for example, in Resolution No. 255, adopted by the UN Security Council on 19 June, 1968. This resolution, which was voted for by the USSR, the United States and Britain, envisages that in the evnt of aggression with the use of nuclear weapons or the threat of such aggression against such states not possessing nuclear weapons, the Security Council and primarily its permanent members must undertake prompt actions in accordance with its obligations as laid down in the UN Charter.

Such guarantees exist as part of the international political lexicon under the "negative" headline. In essence they state that the nuclear powers assume the obligation not to use nuclear weapons against states without such weapons at their disposal. In 1978, the Soviet Union became the first among the nuclear powers to declare that it will never use nuclear weapons against those states which abstain from producing and acquiring such weapons and which do not have them on their territory. What is more, the USSR expressed its readiness to conclude special agreements on this score with any such states and called on the other nuclear powers to follow its example.

The guarantees, founded on making use of UN resources and also on unilateral declarations by the nuclear powers, were positively received by the nonnuclear states. At the same time, some of them think that the existing guarantees are not sufficiently effective. The point is that some of them are not couched in the form of agreed international-legal obligations and are accompanied by stipulations which diminish their value.

The Soviet Union is understanding toward the desire of nonnuclear countries to strengthen their security. It sees this as a component of the broader problem of strengthening peace and curbing the nuclear arms race. Of course a more effective solution to the problem would be an accord on halting production of nuclear weapons and gradual reduction of their stocks until they are completely eliminated. However, until this final aim is achieved, we must not, in our opinion, neglect measures which though less radical still promote a reduction of the danger of a nuclear conflict emerging.

Such a measure would be the elaboration of agreed guarantees with the legal force of an international document. Here it is appropriate to recall that back in 1966, when the Treaty on Nonproliferation of Nuclear Weapons was being elaborated, the Soviet Government announced its readiness to include in this document's draft a clause banning the use of nuclear weapons against nonnuclear states participating in the treaty, and not having such weapons on their territory. But this proposal had to be abandoned at that time because of objections from the West.

At the 33d UN General Assembly Session which took place at the end of 1978, the USSR proposed concluding an international convention on strengthening guarantees for the security of nonnuclear states and submitted a draft for such a convention.

An overwhelming majority of UN member states spoke constructively of this Soviet proposal. At the same time other approaches were elucidated too.

As distinct from the USSR, which proposed providing guarantees for a broad range of nonnuclear states, the United States and Britain advocated providing guarantees only for countries participating in the treaty on nonproliferation of nuclear weapons or similar agreements. France expressed its readiness to elaborate a formula excluding use or threat of use of nuclear weapons only against states which are part of nonnuclear zones. But as is known, at present there really only exists one such zone--in Latin America. China has restricted itself to repeating its well-worn demagogic declarations about nonuse of nuclear weapons against any nonnuclear countries, while not proposing any constructive practical solutions. Pakistan presented its own draft for an international convention. This document proposed that allies of nuclear powers be excluded from the ranks of the countries to which the guarantees for security would apply.

Referring to the "unrealistic nature" of an agreement on international guarantees with a binding force, the United States opposed the proposals on concluding a convention with the idea of the Security Council officially taking into consideration the unilateral declarations made earlier by the nuclear powers on this account.

Despite differences of opinion, all the nuclear powers have agreed in principle on the need to provide more reliable guarantees for nonnuclear states.

Now the question of guarantees occupies a prominent place in the work of the Geneva Disarmament Committee. Here a special working party has been formed, which is examining the socialist countries draft convention, the aforementioned Pakistani draft, and the U.S. proposal which envisaged the General Assembly adopting a resolution containing the unilateral declarations already made by the nuclear powers (earlier, as pointed out, the United States was proposing that the UN Security Council take such declarations into consideration). The committee members reached agreement that accords on guarantees for the security of states not possessing nuclear weapons must be effective and international by nature. Questions of which countries the agreements on "negative" guarantees should apply to and of possible forms for such accords were discussed in detail. It was noted that the idea of concluding an international convention met with no objections in principle.

In any event, the talks in the Disarmament Committee have begun and they must be urged on in order to attain the goal more rapidly. The conditions for this exist. Unfortunately, recently the pace of the talks has noticeably slowed up. This is happening as a result of certain countries' obstructionist stances, primarily the United States and China. At the same time, instead of making a constructive contribution to the solution of the tasks confronting the committee, these states are complicating its activity by submitting for discussion now procedural and now other questions not within the competence of this international organ. As a result, during the Disarmament Committee's spring session, they did not even manage to get down to discussion of "negative" guarantees. After the unjustified deitys and holdups the sole thing agreed on was a mandate for the special working party in which practical talks are being held.

The USSR and the other socialist countries oppose these unseemly attempts to block the efforts aimed a curbing the arms race with a determination to fight for military detente and to hold businesslike talks in a constructive spirit. This is evidenced, for example, by the initiatives advanced at the Warsaw Pact Policial Consultative Committee meeting in Warsaw on 14-15 May.

In the declaration adopted by this conference, the socialist countries announced in particular their readiness to adopt special measures to strengthen guarantees for the security of nonnuclear states in Europe. Such measures might envisage the nuclear powers' being obliged never to use nuclear weapons against those European states--regardless of their participation or nonparticipation in military alliances--not possessing such weapons and not having any foreign nuclear weapons on their territory. These states have the right to receive a guarantee also that, in accordance with the principle of nonuse or threat of force, no other weapons will be used against them.

The Warsaw Pact participants stressedthe need to consolidate and develop the positive things which had been achieved in the sphere of curbing the arms race. They advocated the rapid completion of talks, including talks on the problem of nonuse of nuclear weapons against nonnuclear states which do not have nuclear weapons on their own territory.

CSO: 5100

NONALIGNED COUNTRIES BEGIN NUCLEAR ENERGY MEETING

Subjects Listed

PY301820 Buenos Aires Domestic Service in Spanish 1600 GMT 30 Jun 80

[Text] The first meeting of the coordinating bureau of the nonaligned countries in the field of the use of nuclear energy for peaceful purposes started this morning in the San Martin Cultural Center [in Buenos Aires]. This meeting, which was inaugurated by a speech by the chairman of the National Atomic Energy Commission Carlos Castro Madero, is attended by 33 representatives of the American, Asian and African continents and will end on Friday.

The following subjects will be discussed during the meeting: proposals for cooperation submitted by the delegations, the establishment of a program for cooperation within the organizations, and the position of the nonaligned group within international organizations and conferences which are linked to the nuclear field.

Nonproliferation Law Criticized

PY010308 Buenos Aires TELAM in Spanish 2129 GMT 30 Jun 80

[Excerpts] Buenos Aires, 30 Jun (TELAM)--Vice Adm Carlos Castro Madero, president of the National Atomic Energy Commission (CNEA), today criticized the nuclear nonproliferation law approved by the U.S. Government in 1978, asserting that the safeguards it contains have not been respected by those who were, and are, the main sponsors of the treaty and who have reaped benefits from its discriminatory nature and have not fulfilled the obligations which that international instrument imposes on them.

Castro Madero spoke during the opening ceremony of the first meeting of nonaligned coordinating countries in the field of peaceful use of nuclear energy, which is meeting at the general San Martin cultural center, attended by 30 representatives from Algeria, Cuba, Egypt, Ethiopia, Gabon, Indonesia, Iraq, Libya, Morocco, Nigeria, Pakistan, the Central African Republic, Tunisia and Yugoslavia.

Castro Madero maintained that in the opinion of many the nonproliferation law was premature, because the international fuel cycle evaluation (INFCE) proposed by the U.S. Government itself had only just begun. He added that the law has proved to be an obstacle to harmony and understanding in the international nuclear field, whatever the good intentions of those who proposed it.

He pointed out that the attempts of the London Club to protect the economic interests of the supplying countries in the nuclear field, wielding the argument of preventing proliferation, have brought international trade in this field to an almost complete standstill. He further said that the most important INFCE conclusions show that horizontal nuclear proliferation cannot be controlled by technical means. It is an exclusively political problem, just as vertical proliferation.

Castro Madero then stated that the nonaligned countries should act in a coordinated way at all international meetings, where concrete problems should be brought up, such as not accepting that their legitimate aspirations of developing and using nuclear energy for peaceful purposes be restricted, as long as the requirements of safeguards stipulated in the statute and other treaties are complied with.

He said that we should keep the clear position at the meeting of the International Atomic Energy Organization that gurantees of nonproliferation and guarantees of deliveries are reciprocal and that the unilateral suspension of deliveries by the supplier can lead to the unilateral suspension of the guarantees given by the consumer.

At the conclusion of his speech Castro Madero said that the nonaligned countries are facing the challenge of proving that this international cooperation can be achieved without the need for anyone to assume the responsibility of unilaterally deciding what is good and what is bad.

CSO: 5100

SOVIET COMMENTS ON PAKISTANI-PRC NUCLEAR COOPERATION

LD021330 Moscow Radio Peace and Progress in English to Asia 1330 GMT 1 Jul 80

[Summary] In connection with the 12th anniversary of the signing of the nuclear nonproliferation treaty, Viktor Bradov notes that China and France have refused to sign the treaty. Beijing opposes all measures to limit the nuclear arms race because it is on nuclear weapons that it stakes its plans of unleashing world war and winning a dominant position. For Beijing, nuclear weapons are a means of achieving its hegemonistic goals. Hence it wants as many states as possible to obtain nuclear weapons, as illustrated by its nuclear cooperation with Islamabad.

"The Chinese leaders are fully aware of the claims the Pakistan military have in respect to India. Not only does Islamabad claim Kashmir, but also other vast areas of India's territory adjacent to the Pakistani border. And the Pakistani generals hope to act on their claims by military force and with the military aid of their longtime partners, China and the United States. Reports that Pakistan has launched on producing its own atomic bomb were leaked to the public a long time ago in the early 1970's. It has only emerged recently that all those years the Islamabad regime has been getting effective assistance from China in developing nuclear weapons.

"Last January, the London DAILY TELEGRAPH reports said that the fact Pakistan has developed a nuclear device is the result of the assistance it got from China. Judging by reports in the Western press Pakistan already has an atomic bomb. All that remains is to test it. That problem, too, according to Indian sources, has now been settled to all practical purposes. When the president of Pakistan, General Ziaul Haq, visited China recently he arrived at an agreement with Beijing on testing the Pakistani nuclear device at the Chinese testing site near Lop Nor Lake in the very near future.

"It is true that possession of nuclear weapons is the sovereign right of every independent state, but we ought not to forget that our globe is much too small for any state to start throwing atom bombs around. It is the clear understanding of the consequences of such a line of behavior that has led more than 100 states to voluntarily take upon themselves a commitment to refrain from acquiring possession of nuclear weapons and from nuclear arms proliferation in keeping with the international treaty."

CSO: 5100

'TASS' REPORTS PRELIMINARY IAEA MEETING IN VIENNA

LD212240 Moscow TASS in English 2124 GMT 21 Jun 80

[Text] Vienna, June 21, TASS--TASS correspondent Igor Maslov reports:

A session of the Board of Governors of the International Atomic Energy Agency (IAEA) has ended here. It preceded the conference to be held in Geneva in August-September to discuss the implementation of the Nuclear Non-Proliferation Treaty. The IAEA takes an active part in the implementation of the provisions of that important document which is called upon to bar the spread of mass destruction weapons.

In the spotlight of the participants in the session were the questions connected with the agency's activities to implement clauses three and four of the Nuclear Non-Proliferation Treaty.

It was decided to set up the committee to discuss the question of guaranteeing deliveries of nuclear materials and equipment and the granting of services in the sphere of the nuclear fuel cycle. The work of the committee will be a new stage in the effort to consolidate further the regime of non-proliferation of nuclear weapons.

The board approved of the IAEA activity to render technical assistance to member countries of the agency. At the same time, it declared against the attempts of separate developing countries that are striving for the unlimited increase of the fund for technological assistance.

The session approved of the fund of the IAEA for technological assistance for 1981 in the volume of 13 million dollars. In view of the wish of many countries, the board agreed with the preliminary figures of financial technological aid for 1982 and 1983.

The board approved of the report on the IAEA activity in exercising in 1979 the control envisaged by the Nuclear Non-Proliferation Treaty.

The decisions of the board's session will be of great importance for further development and improvement of the board's activity, specifically in the consolidation of the regime of non-proliferation of nuclear weapons.

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BRIEFS

FRENCH-IRANIAN PROJECT TALKS--Tehran--Ali Reza Nobari, governor of the Central Bank of Iran, left for Paris Tuesday to hold negotiations to resolve Irano-French differences over a nuclear project dating back to the shah's rule. The talks would center on Iran's participation in the French uranium enrichment company Eurodif. Iran abandoned a $20 billion nuclear development program when the shah was overthrown in February, 1979. Nobari was heading the high-level delegation dispatched to France on orders of the Revolution Council. [Text] [WA017300 Tehran TIMES in English 12 Jun 80 p 1]

FRENCH AID TO EGYPT--Electricity and Energy Minister Eng Muhammad Mahir Abazah [as published] has reviewed the results of the technical and field studies conducted by French and Egyptian nuclear energy experts for designating the sites for nuclear power stations on the shores of the Red Sea and the Mediterranean for the purpose of generating about 6,000 megawatts annually--36 percent of the total power output in Egypt--by the end of the current century. The electricity minister yesterday received the French nuclear power delegation led by Albert le (Cuto), director of the (SOFRATOM) nuclear power establishment. The minister said that the experts have proposed a site in Az-Za'faranah on the Gulf of Suez for the establishment of one of the stations included in the Egyptian nuclear power generating program. [Text] [LD021309 Cairo AL-AHRAM in Arabic 26 Jun 80 p 1]

U.S. REACTOR FOR MALAYSIA--Malaysia is to buy a nuclear reactor costing 9.2 million ringgit for the Tun Simail Atomic Research Center, Pumpati, which is expected to be completed late next year. The agreement for the purchase of the reactor from the United States will be signed next month. Malaysia has four officials licensed to operate the reactor. This was stated by the director of the center, Professor Noramly Muslim, when he briefed the chief secretary of the government Tan Sri Abdullah Ayub when he visited Pumpati in Bangi near Kuala Lumpur today. The center is located on a 66-acre site. The secretary general of the Ministry of Science, Technology and Environment, Datuk Mohammed Hashim Sam Latiff, said his ministry was drafting a bill on the National Atomic Energy Commission, which would be presented during the next session of parliament. It will supplement the radioactive substance act of 1968. It is to monitor and supervise radioactive elements of the Tun Ismael Research Center. [Text] [BK301610 Kuala Lumpur International Service in English 0830 GMT 30 Jun 80]

U.S. WASTE ON LIBYAN BORDER--On page six of today's issue AL'ZAHAF AL-AKHDAR (THE GREEN MARCH) carries an article headlined: "Nuclear Graveyards on the Borders of the Jamahiriyah." The writer says: One cannot but feel the plot and abominable crime directed against the entire human race and foremostly the Arab nation. This plot and crime are the byproduct of European civilization. The technological progress in Europe is a sinister process opposed to freedom and advancement led by wornout, aging Europe. Today it adds a new crime to the series of crimes it committed against the peoples seeking freedom, emancipation and progress. It is turning the lands of the peoples into graveyards for burying the waste of their nuclear tests and transforming the man of the 20th century in Africa and the Arab world into mere test vehicles. One explodes in anger when one discovers that there is yet another episode in the chain of plotting and an article of the secret Camp David agreement being implemented close to the Socialist People's Libyan Arab Jamahiriyah borders and precisely in the eastern desert, where the European imperialist circles headed by the United States and West Germany are now burying their nuclear waste in return for a handful of dollars given to agent Al-Sadat. [Excerpt] [LD301522 Tripoli Domestic Service in Arabic 1230 GMT 30 Jun 80]

ITALIAN-CANADIAN NUCLEAR COOPERATION--Rome, June 24 (ANSA)--Canadian Prime Minister Pierre Trudeau met here today with Italian Premier Francesco Cossiga for talks in which the two government leaders agreed to develop nuclear cooperation. Flanked by their delegations, Trudeau and Cossiga talked for about an hour and had an ample exchange of views on the seven-nation summit that ended in Venice yesterday. After the meeting, Trudeau, his eight-year-old son Justin, and a retinue of eight persons went to a private audience with Pope John Paul II at the Vatican City. In their talks, the two premiers agreed on the basic agreement between the two countries over the major international problems and their mutual interest in intense bilateral cooperation. Apart from the decision on nuclear cooperation, they agreed to promote the periodical exchange of economic and political missions and to rapidly conclude negotiations on an extradition treaty and a consular agreement. In the fall, contacts will be resumed to review and extend bilateral cooperation on cultural affairs and an agreement on double taxation should come into force as soon as is feasible. Trudeau recalled his meetings with former Premier Giulio Andreotti in Ottawa in 1975 and 1977 and voiced appreciation for the contribution of Italian-born Canadians and Italians to the country's development. In the late morning, Trudeau lunched with head-of-state Sandro Pertini. The Canadian premier flies to London tomorrow. [Text] [AU241632 Rome ANSA in English 1518 GMT 24 Jun 80]

SOVIET-AUSTRIAN COOPERATION AGREEMENT--The Soviet Union and Austria have signed an agreement on cooperation in the manufacture and marketing of atomic energy equipment. This will cover the building of a turbine factory in Leningrad and the supply of Austrian equipment for an atomic research center being built with Soviet help in Libya. [Text] [LD202116 Moscow World Service in English 1600 GMT 20 Jun 80] Vienna, June 19, REUTER--Austria and the Soviet Union have signed an agreement to cooperate in building components for nuclear power plants and in selling power plant equipment to third countries. Victor Korotov, Soviet minister for energy equipment construction, signed the agreement in Vienna today with Austriatom, a nuclear energy consortium belonging to four major Austrian firms. According to the Austrian firms involved, the planned deals included construction of a turbine factory in Leningrad and delivery of Austrian components for a Soviet nuclear project in Libya. An Austrian delegation will discuss project plans with Soviet specialists in Moscow this autumn, an Austriatom spokesman said. [Text] [WA192004 London REUTER in English 1957 GMT 19 Jun 80] A cooperation agreement with the "Austriatom" nuclear engineering consortium, in which the Vew, Waagner-Biro, Andritz and SGP companies are represented, was signed at the Vienna Trade Ministry on 12 June by Viktor Krotov, USSR minister of power machine building. The Voest-Alpine Corporation is also a party to the agreement. "The agreement provides for technical-scientific cooperation in the building of nuclear power plant components, as well as for cooperation in conventional power plant construction and in the heavy diesel engine sector. Cooperation is also envisaged in third markets. In a short speech in the presence of Trade Minister Staribacher and the directors general of the "Austriatom" member firms the Soviet minister declared that the cooperation agreement was the basis for a concrete intensive cooperation. In the fall, an Austrian delegation of company representatives is to discuss concrete projects with Soviet specialists." [Summary] [AU200955 Vienna WIENER ZEITUNG in German 20 Jun 80 p 7]

HUNGARY SIGNS NUCLEAR TREATY--Budapest, June 17 (MTI)--MTI correspondent reports from Vienna: Authorized by the Presidential Council of the Hungarian People's Republic, Ambassador Zoltan Fodor, Hungary's permanent representative to the international organizations in the Austrian capital, signed in Vienna on Tuesday a treaty regarding physical defence of nuclear materials. [Text] [LD181130 Budapest MTI in English 1016 GMT 18 Jun 80]

FRENCH TEST AT MURUROA--Wellington, July 1 (AFP)--A third French nuclear test is due at any time at Mururoa Atoll in the South Pacific. The prediction came today from the New Zealand Greenpeace Foundation which has earlier predicted the two previous tests in the current French series. Spokesman Miss Mary Shaw said today, "The third test is imminent and it is clear the French are continuing their testing in the atoll despite accidents there last year." Miss Shaw warned such tests continue to damage the atoll structure with radioactive material almost certainly released into the surrounding sea. The first nuclear blast in the current series had a yield of 20 kilotons. The second was a minor blast of about 4 kilotons according to New Zealand Government scientists. Greenpeace claim that up to half a dozen tests will be carried out in the present series. [Text] [OW010545 Hong Kong AFP in English 0531 GMT 1 Jul 80]

LIBYAN-CAMEROONIAN COOPERATION--Sources in the Government of Cameroon said that Cameroon President Ahmadou Ahidjo received a proposal from Libyan President Colonel Mu'ammar Qadhdhafi for the two countries to collaborate in the exploitation of Cameroon's uranium. According to these Cameroonian sources the proposal was made for Libya to give whatever investment funds were needed for the "Kribi" uranium mines, in return for which Libya would get a share of the mined ore. As a result of this, Cameroon is already facing pressures that aim to block its consent to this offer in order to prevent Libya from obtaining this uranium--something that would enable Libya to turn into a nuclear power. [Text] [Paris AL-MUSTAQBAL in Arabic 7 Jun 80 p 45]

ZAMBIAN URANIUM EXPLORATION--Tokyo, 16 May--Japan signed an agreement with Zambia in Lusaka Friday on exploration for uranium resources in that country, the Power Reactor and Nuclear Fuel Development Corporation has announced. The corporation said that it has been granted the right under the agreement to engage in exploration of uranium resources in The Sinazongwe sector in southern Zambia. It said it will start exploration work during this fiscal year. The agreement was signed between the corporation and the Minerals and Materials Committee of Zambia. [Text] [Tokyo KYODO in English 0053 GMT 16 May 80 OW]

ITALIAN-IRAQI NUCLEAR CONTRACT--Beirut, May 20 (ANSA)--The glowing prospects for Italian business and industry in Iraq outlined by Iraqi Trade Minister Alin during his recent visit to Rome have been confirmed by Iraqi commercial sources here. Among the other contracts now being negotiated is an 800 million dollar deal for conventional and nuclear power plant equipment being bid on by GIE in a consortium with other foreign firms. [Excerpts] [AU200950 Rome ANSA in English 0830 GMT 20 May 80]

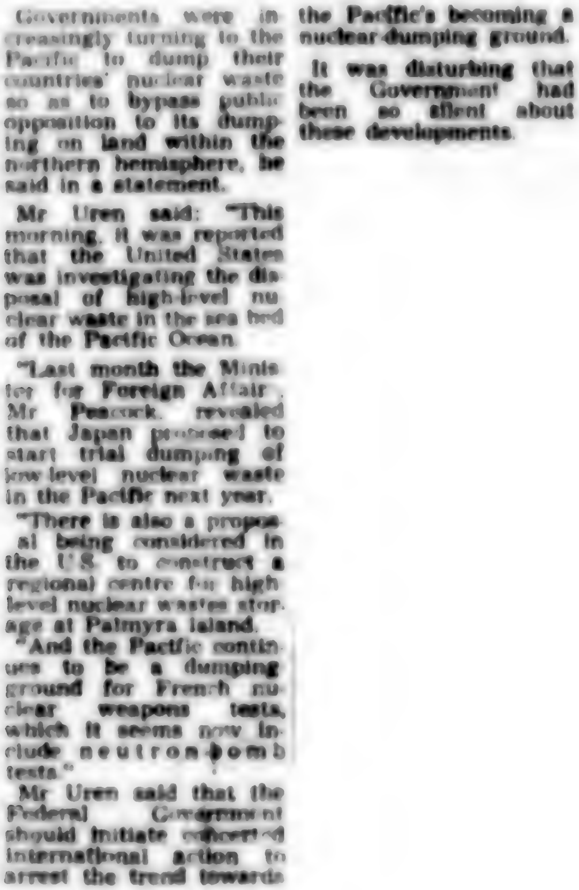
JAPAN-U.S. ACCELERATOR-RELATED TECHNOLOGY--Mito, May 20, KYODO--Japan and the United States agreed here Tuesday to begin joint development of accelerator-related technology for high energy physics in fiscal 1981 starting next April. The agreement came at a two-day meeting of the Japan-U.S. High Energy Physics Committee which ended at the High Energy Physics Institute at the academic city of Tsukuba, southwest of here, the same day. The committee was formed under the Japan-U.S. energy research and development agreement concluded a year before. After holding the first meeting in the U.S. last November, the committee is serving the exchange of Japanese and American scientists in high energy physics. [Text] [OW201251 Tokyo KYODO in English 1230 GMT 20 May 80]

CSO: 5100

MP POINTS OUT RISKS OF PACIFIC NUCLEAR DUMPING GROUND

Perth THE WEST AUSTRALIAN in English 1 Jul 80 p 23

[Text] Canberra: The Pacific Ocean was in danger of becoming a major dumping ground for nuclear waste, Labor's urban and regional affairs spokesman, Mr Tom Uren (NSW), said yesterday.



Governments were increasingly turning to the Pacific to dump their countries' nuclear waste so as to bypass public opposition to its dumping on land within the northern hemisphere, he said in a statement.

Mr Uren said: "This morning, it was reported that the United States was investigating the disposal of high-level nuclear waste in the sea bed of the Pacific Ocean.

"Last month the Minister for Foreign Affairs, Mr Peacock, revealed that Japan proposed to start trial dumping of low-level nuclear waste in the Pacific next year.

"There is also a proposal being considered in the U.S. to construct a regional centre for high-level nuclear wastes storage at Palmyra Island.

"And the Pacific continues to be a dumping ground for French nuclear weapons tests, which it seems now include neutron bomb tests."

Mr Uren said that the Federal Government should initiate concerted international action to arrest the trend towards the Pacific's becoming a nuclear-dumping ground.

It was disturbing that the Government had been so silent about these developments.

CSO: 5100

URANIUM LEADS WAY TO NORTHERN TERRITORY'S PROSPERITY

Canberra THE AUSTRALIAN in English 3 Jul 80 p 23

[Text]

URANIUM is the glamor mineral of the Northern Territory, but it is not the only mining development changing the face and economy of the area.

Gold, copper, lead, zinc, silver, bauxite and manganese are transforming the territory with new townships, airstrips and roads.

The Mereenie oil and gas field south-west of Alice Springs is estimated to contain more than 60 million barrels of recoverable oil.

Natural gas is expected to be used to provide power for Alice Springs for at least 20 years and almost all Northern Territory offshore waters are held under permit or are available for petroleum exploration.

The NT Minister for Mines and Energy, Mr Ian Tuxworth, is an ex-miner who recognises a mining boom when he sees one. He says it isn't there yet, but the industry in the Territory is well on the way to a boom.

Known uranium reserves of the NT are the equivalent of the energy value of Saudi Arabia and Kuwait combined according to Mr Tuxworth.

But as yet the only mine producing uranium yellowcake is Nabarlek (Queensland Mines) where it is claimed the orebody is the richest so far mined in the world, with about [illegible] per cent uranium in the ore.

About 600,000 tonnes of ore was mined at Nabarlek and stockpiled last year while the uranium mill was built. The first yellowcake — in fact a black substance with a greenish tinge — came off the "production line" only a few weeks ago.

Nabarlek, in Arnhemland, is a much smaller mine than its neighboring Ranger deposit (joint owners are Peko-Wallsend and Electrolytic Zinc Company of Australia).

Open-cut mining is expected to start there later this year, and about 17 million tonnes of ore at a grade of 0.34 will be mined over a 15-year period.

Two other deposits, Jabiluka (Pancontinental and Getty Oil Development), and Koongarra (Noranda Australia) are yet to receive final approval for mining operations to begin. Both these mines are also in Arnhemland.

Elsewhere in the territory, the Ngalia Basin, north-west of Alice Springs, and the Amadeus Basin, immediately south and south-west of the Alice, have returned promising indications of uranium.

Considerable exploration is going on in this area, and in December last year, MIM announced that reserves of 4000 tonnes of uranium had been defined at the Angela prospect, south of the Alice. Drilling is continuing to find out if the field is any bigger.

Apart from uranium, one of the most interesting potentials for the territory is the huge deposit of lead, zinc and silver in the MacArthur River region, near the Gulf of Carpentaria.

This deposit is estimated to contain 227 million tonnes of extremely fine-grained and inter-grown ore, assaying 4.1 per cent lead, 9.2 per cent zinc, and 41 grammes per tonne of silver.

Development of the area, discovered in the mid-50s, has been hampered by the lack of a metallurgical process which will concentrate the complex ore efficiently and economically.

The Government is confident the project will go ahead, and in anticipation has recently proclaimed three islands in the nearby Sir Edward Pellew group as a town. The islands encompass the only known site for a deep-water port in the region.

Development of the big deposit will involve capital expenditure in the region of $1000 million.

The MacArthur River will have to be diverted, and an aerodrome, roadways, a township and a port will have to be built.

The Government in Darwin hopes the development will help to open up what has always been a fairly sleepy corner of the Territory.

Other lead, zinc and silver reserves are known to exist in the Darwin and Keep River areas, but more work needs to be done before these deposits can be proven economically viable.

In copper, further reserves have been defined at Peko's Gecko mine near Tennant Creek, and production at both the Gecko and nearby Warrego mines is increasing.

Peko has also recommissioned its Warrego smelter at a cost of $25 million after the signing of a long-term contract to supply blister copper to Japan.

The bauxite and alumina development on the Gove Peninsula remains the largest mineral development completed in the Northern Territory.

Last year modifications costing $30 million were completed to existing plant to produce sandy alumina, a courser product favored by aluminium smelters. Total value of production in the 1978-79 financial year for bauxite and alumina products amounted to $124 million.

Manganese is being mined at Groote Eylandt, and production value in the last financial year amounted to $78 million. The development of the manganese deposits here is assured for the next 50 years.

Off-shore, applications have recently been invited for petroleum exploration permits over six areas in the Arafura Sea. The significance of the move is that now virtually all Northern Territory offshore waters are held under permit.

Onshore, the Mereenie oil and gas field south-west of Alice Springs is expected to be underway by the end of the year.

TIM: 5160

AUSTRALIA

BRIEFS

FREMANTLE NUCLEAR PROTEST--A public meeting opposing a nuclear base in Cockburn Sound will be held at Fremantle on August 6--the anniversary of the day Hiroshima was destroyed by an atomic bomb. The meeting will be held in conjunction with a newspaper advertising campaign organised by the Campaign Against Nuclear Energy, the Fremantle Anti-Nuclear Group and the Indian Ocean Peace Coalition. The organisers will urge the United States and Australian governments not to develop a nuclear base near Perth. The organisers say that in the event of an accidental or planned nuclear conflict the first targets of foreign nuclear attack will be bases that harbour or are connected with nuclear weapons. [Text] [Perth THE WEST AUSTRALIAN in English 7 Jul 80 p 31]

NUCLEAR WASTE DISPOSAL--The Australian Atomic Energy Commission is leading an international race to develop a method of immobilising high-level radioactive waste. In the two years since its development, the application of Synroc on an international scale has been unclear. But its joint developers, Professor A. E. Ringwood, the Director of the Research School of Earth Sciences at the Australian National University, and Mr E. J. Ramm, of the Atomic Energy Commission, now believe Synroc can soon be manufactured on a commercial scale. The two scientists have received keen inquiries from several countries, including the United States, and have applied for a joint patent. The development that has put Synroc on the road to commercial application is known as in-can hot-pressing. It involves the application of heat and pressure to compact the Synroc powder in a metal canister. A recent test at the Lucas Heights reactor in Sydney, financed by the Federal Government;s National Energy Research Development and Demonstration Program, involved testing Synroc under intense radiation. [Text] [Canberra THE WEEKEND AUSTRALIAN in English 5-6 Jul 80 p 2]

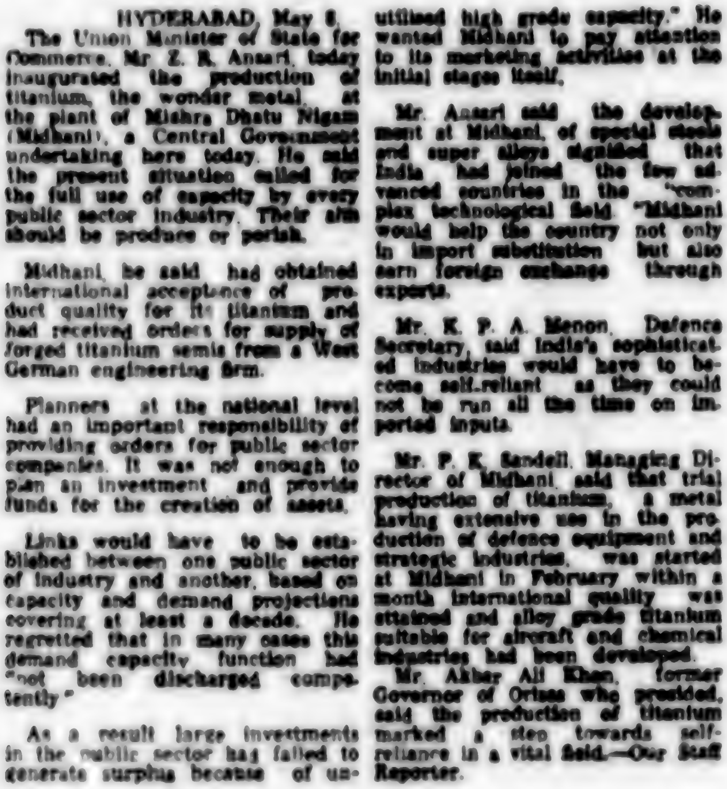
KALGOORLIE RESEARCH PLANT--Western Mining Corporation appears likely to start commissioning its metallurgical research plant on the northern outskirts of Kalgoorlie next month. The plant will initially test uranium ore from the company"s deposits at Yeelirrie in a programme of at least 12 months. The manager of the first stage of the Yeelirrie project, Mr Ian Letts, said yesterday construction and installation work at the plant was expected to be completed some time in Augsut. Commissioning would follow immediately. [Excerpt] [Melbourne THE AGE in English 5 Jul 80 p 29]

CSO: 5100

PRESS GIVES DETAILS OF TITANIUM PLANT OPENING

Madras THE HINDU in English 9 May 80 p 13

[Text]



HYDERABAD, May 8.

The Union Minister of State for Commerce, Mr. Z. R. Ansari, today inaugurated the production of titanium, the wonder metal, at the plant of Mishra Dhatu Nigam (Midhani), a Central Government undertaking here today. He said the present situation called for the full use of capacity by every public sector industry. Their aim should be produce or perish.

Midhani, he said, had obtained international acceptance of product quality for its titanium and had received orders for supply of forged titanium semis from a West German engineering firm.

Planners at the national level had an important responsibility of providing orders for public sector companies. It was not enough to plan an investment and provide funds for the creation of assets.

Links would have to be established between one public sector of industry and another, based on capacity and demand projections covering at least a decade. He regretted that in many cases this demand capacity function had "not been discharged competently."

As a result large investments in the public sector had failed to generate surplus because of unutilised high grade capacity." He wanted Midhani to pay attention to its marketing activities at the initial stages itself.

Mr. Ansari said the development at Midhani of special steels and super alloys signified that India had joined the few advanced countries in the "complex technological field." "Midhani would help the country not only in import substitution but also earn foreign exchange through exports.

Mr. K. P. A. Menon, Defence Secretary, said India's sophisticated industries would have to become self-reliant as they could not be run all the time on imported inputs.

Mr. P. K. Sandell, Managing Director of Midhani, said that trial production of titanium, a metal having extensive use in the production of defence equipment and strategic industries, was started at Midhani in February within a month international quality was attained and alloy grade titanium suitable for aircraft and chemical industries had been developed.

Mr. Akbar Ali Khan, former Governor of Orissa who presided, said the production of titanium marked a step towards self-reliance in a vital field.—Our Staff Reporter.

CSO: 5100

BRIEFS

NUCLEAR ENERGY DEVELOPMENT--India is on its way to attain self-sufficiency in all spheres of nuclear science and engineering. According to the latest report of the Department of Atomic Energy, the third and fourth nuclear power stations at Madras and Narora in Uttar Pradesh are being set up entirely by Indian engineers. The department expects that the capacity of power generation will go up to 2.74 million kilowatts in 1991-92 from 860,000 kilowatts in 1980-81. The report says that self-sufficiency has been attained in fuel required for the pressurized heavy water reactor programs. Plans for producing heavy water are also being set up with indigenous know-how. [Text] [BK170256 Delhi Domestic Service in English 0240 GMT 17 Jul 80]

CSO: 5100

BRIEFS

URANIUM FROM SEAWATER--Takamatsu, Japan, 10 Jun--A group of Japanese researchers here has claimed successful development of a "highly efficient" absorbent for collecting uranium from sea water. The researchers at the Ministry of International Trade and Industry's Shikoku Industrial Research Industry said their experiments showed that when the absorbent was immersed in sea water for 10 days it absorbed 1.8 milligrams of uranium per one gram of absorbent. In a comparative test, a conventional product made of titanic acid picked up only 0.1 to 0.2 milligrams of uranium. Mr Kazuyuki Miki, chief of the Planning Section at the Institute said the new absorbent has been developed by coupling an amidoxime base to acrylic fiber by means of a chemical reaction. He said the new development would go a long way toward extracting nuclear reactor fuel from sea water which contains about 3 milligrams of uranium per ton. Mr Miki said experiments would be continued to prolong the life of the absorbent and to find a better way of recovering uranium from the absorbent. [Text] [Hong Kong AFP in English 0330 GMT 10 Jun 80 OW]

CSO: 5100

PEACEFUL INTENT OF NUCLEAR PROGRAM REITERATED

Radio Commentary

BK010732 Karachi Domestic Service in English 1715 GMT 30 Jun 80

[Commentary by Jamil Zuberi]

[Text] Foreign media has all of a sudden again become active and resumed the campaign against Pakistan's nuclear research program. The apparent purpose of this campaign is to cover up President Carter's permission to ship huge quantities of uranium to India and at the same time to create difficulties for Pakistan in getting its debt liabilities rescheduled by the aid to Pakistan consortium which is meeting in Paris today. The campaign has become so hostile that the Pakistan mission in Canada had to take notice of it and issue a clarification.

Time and again this country has made it clear in very unambiguous terms that her nuclear research program is totally peaceful and its only objective is to use nuclear technology for generating cheap energy to meet her fast increasing future needs. The Pakistani diplomat in Canada has repeated the same thing in his letter to the media which has expressed its doubt about the program and accused us of making what is called the Islamic bomb.

When Pakistan entered into a deal with France for the supply of its processing plant, its main ally and friend, the United States of America, exerted pressure and got it canceled. It very openly came out to stop us from carrying out our nuclear research program and used all possible measures to ((get us)) to abandon it. Acting as its instrument, international financial agencies first asked us to devalue our currency and made it almost a precondition for the grant of further economic assistance. The Pakistan Government took a bold stand and firmly refused to do so as the objective economic condition prevailing in this country called for a little upward revaluation of the Pakistani rupee. However, this was not done either. But the U.S. administration stopped economic assistance to us in the hope that we would bow to its dictates. Now, with a change in the geopolitical situation in the South Asian region, economic assistance was resumed earlier this month. However, our request to reschedule our debt liabilities for a period of 4 years was kept pending and it is to be decided today.

President has made it clear that the efforts which have been made during the last 3 years to put the economy of the country back on the rails have now started showing positive results. In order to consolidate these efforts it needed not only the commitment of $1 billion for 1980-81 but also debt relief to the extent of $750 million for a period of 4 years. Most of the consortium countries, while agreeing to provide us the necessary assistance, are favorably inclined to consider our request for rescheduling our debts as well. In this situation the launching of the present campaign against the nuclear program is quite understandable.

In view of ever rising oil prices it has become imperative for this country to find other cheaper sources of energy. Our nuclear research program is mainly meant for this purpose. We have made it abundantly clear that we have no intention of making nuclear weapons.

We have opened all our nuclear installations to international inspection, with, of course, one very reasonable condition that nuclear installations in other countries should be subjected to similar inspection. India, which has already exploded an atomic device in 1974, has refused to get its installations inspected by the international agencies and despite that it is being provided with all its requirements of uranium and heavy water. On the other hand Pakistan, which has been giving all guarantees against using its nuclear resources for any other purposes but peaceful, is being deprived by such basic requirements as heavy water to keep its nuclear energy plant at Karachi running.

Why is foreign media aggressive to the nuclear program of this country alone? Pakistan is fully justified in rejecting such a partial attitude. It is hoped that the consortium countries would also see the motive behind this campaign and would not be influenced by it.

Minister's Statement

GW242331 Hong Kong AFP in English 2249 GMT 24 Jun 8

[Text] Kuwait, June 24 (AFP)--Pakistan has "no intention" of acquiring nuclear weapons, Pakistani Interior Minister for Religious Affairs Mahmud Haroon said here today.

Speaking at a press conference, Mr. Haroon said that Pakistan planned to use nuclear energy "exclusively for peaceful purposes. We have no intention of following the example of India, Israel or South Africa in this regard," he said.

On Afghanistan, Mr. Haroon denied reports that Afghan resistance fighters received arms and training in Pakistan.

He added that "in the spirit of Islamic solidarity," Pakistan had taken in nearly one million Afghan refugees so far.

Mr. Haroon also said that Pakistan had rejected U.S. military aid offers after the Soviet intervention in Afghanistan in order to "stay out of the rivalry between the two superpowers in defense matters."

Decision on Nuclear Power

OW022353 Hong Kong AFP in English 2330 GMT 2 Jul 80

[Text] Islamabad, July 2 (APP)--Pakistan has decided to opt for nuclear power to fill the gap between the energy supply and demand, it was officially stated here today.

The decision was taken after a meeting of the country's Economic Coordination Committee (EC), [chaired by] Finance Minister Ghulam Ishaq Khan. The statement said that the committee found no alternative but to opt for [words indistinct] generating capacity to meet the energy requirement for the next 10 years.

It is expected that the country will be able to generate 600 megawatts of power with the [word indistinct] of nuclear plants by the end of 1988. Feasibility studies have been completed and international tenders for the project will be sought by early next year.

Meanwhile Pakistan Atomic Energy Commission Chairman (Munir Ahmed Khan) called on Third World countries to make determined efforts to find a solution to energy problems.

Describing energy and food as the most important problems for mankind he said that Third World countries need to develop infrastructure for scientific developments.

CSO: 5100

BRIEFS

NUCLEAR ENERGY DEVELOPMENT--The government has decided in principle on the use of atomic energy for the generation of electricity and nuclear techniques to speed up development. This followed a memorandum submitted by the minister of industries and scientific affairs. Mathew told the cabinet that to achieve the objectives of using nuclear power to generate electricity and using nuclear techniques it was necessary to train the requisite personnel, develop the necessary infrastructure through expansion of available laboratory facilities and to complete the ongoing uranium and thorium survey. It is also necessary to seek assistance from friendly countries. The minister suggested that the program should start with the commissioning of a nuclear reactor by 1990-92. A preliminary survey had shown the availability of uranium in several areas. There was also a stockpile of 40 tons of [word indistinct] and mineral sands now available with the geological survey department. The plan includes the setting up of a center for nuclear technology at (Sri Jayewardepura). [Text] [BK241207 Colombo International Service in English 1045 GMT 24 Jul 80]

CSO: 5100

THAILAND

URANIUM, NUCLEAR FUEL PROJECTS SURVEYED

Bangkok BAN MUANG in Thai 17 Apr 80 p 13

[Article by Ratri Tangsongcharoen]

[Text] Several years have passed since the Geological Resources Department discovered uranium among copper and sandstone deposits at Phu Wiang District in Khon Kaen Province. Although uranium found was very low-grade, uranium surveys are still encouraged and supported because it is believed that within the next 15-20 years we will have to resort to nuclear energy that is generated from uranium, instead of natural gas, lignite or oil shale which are being depleted everyday.

Following that discovery, Professor Suwan Sengphet, head of the Nuclear Technology Division of the Faculty of Engineering at Chulalongkorn University submitted a petition to the government to draft a national policy by making a law that would preserve nuclear materials as a national resource, prohibiting foreign companies from surveying or getting mining concessions. Neither should foreign companies be contracted to carry our surveys. As a result of the discovery of uranium, it was reported that many interested foreign companies had tried to negotiate with the government to carry out detailed surveys at their own expense and without obligation of a connection with the Thai Government; saying they would have to have a concession. Professor Suwan opined that if a foreign company is allowed to do the survey, it would not furnish us with factural data, therefore, we must carry out the survey ourselves, with cooperation between the Geological Resources Department, the Office of Nuclear Energy for Peace, Chulalongkorn University and Khon Kaen University.

The Geological Resources Department last year requested cooperation from Chulalongkorn University in its survey of uranium by employing the Tracketch method. Chulalongkorn University in turn received 100,000 baht from the department to acquire surveying equipment.

Professor Suwan further disclosed that Thailand is now capable of using uranium without foreign assistance. He said that a number of graduate students working on their theses have discovered the method by which nuclear materials can be processed and refined. Within the next 2 years Thailand will be ready to extract such a great quantity of natural uranium from nuclear materials that we can produce uranium dioxide which can later be used to produce, through a metallurgical condensation process, rods of nuclear fuel for use in nuclear reactors.

"We can do it. And even if we are not yet capable to do so, we must preserve the ores for the next generation because these materials will become more and more valuable. If the excuse is that Thailand is poverty-stricken we can always sell other ores such as tin and copper. However, if foreigners carry out the survey, we must first be ready by preparing a team of experts who will see to it that our national interests are protected," said Professor Suwan.

The problem now is how long can Thailand preserve this energy resource?

9013
CSO: 5100

USSR-CSSR SIGN NUCLEAR COOPERATION PROGRAM

Prague Ceremony

LD181820 Prague Domestic Service in Czech 1630 GMT 18 Jun 80

[Text] A program of cooperation between Czechoslovakia and the Soviet Union in the sphere of the development of nuclear energy generation in Czechoslovakia until 1990 was signed today in the Hrzansky palace in Prague by Lubomir Strougal, member of the CPCZ Central Committee Presidium and federal premier, and Aleksey Kosygin, member of the CPSU Central Committee Politburo and chairman of the Council of Ministers.

The document specifies in detail the tasks in the development of nuclear power generation in Czechoslovakia. This sphere was described as one of the key tasks of our economy by the 15th CPCZ Congress. The cooperation between Czechoslovakia and the Soviet Union in this sphere amounts to a significant contribution to purposeful broadening our fuel and energy basis, and to long-term solving of this important question. Economic and scientific cooperation between Czechoslovakia and the Soviet Union in the sphere of nuclear energy generation is developing successfully and represents one of the most important integration actions and accounts for some of the most important structural changes in Czechoslovak engineering. Our industry will, after 1980, manufacture equipment for nuclear power stations VVER-440 and VVER-1000, both for Czechoslovakia's own needs and for export. Czechoslovakia will therefore belong to the few world manufacturers of this equipment.

Apart from the supplies of certain equipment, the Soviet Union will help us with the design and construction of further nuclear power stations built in Czechoslovakia. The program also includes the participation of our scientific-research base in the research and development of this important sphere of science and technology and it also outlines mutual cooperation in a number of branches connected with the peaceful utilization of nuclear energy.

Through cooperation with the Soviet Union, Czechoslovakia is ensuring not only its own energy requirements, but it will also make an important contribution to solving of the fuel and energy questions within the entire socialist community.

'PRAVDA' Report

LD250841 Moscow PRAVDA in Russian 19 Jun 80 p 1

[TASS report: "Program Signed"]

[Text] Prague, 18 June--A. N. Kosygin, chairman of the USSR Council of Ministers and L. Strougal, premier of the CSSR Government, who are taking part in the work of the 34th CEMA session meeting, signed in Prague a program for cooperation between the USSR and CSSR in the sphere of development of nuclear power engineering in the CSSR up to 1990.

The program envisages concrete measures to further deepen cooperation in the development in both countries of the production of nuclear power equipment on the basis of specialization and production sharing, in the joint elaboration of scientific and technical problems of nuclear power engineering and also in building nuclear power stations in the CSSR with the Soviet Union's technical aid.

Present at the signing of the program were: on the Soviet side--K. V. Rusakov, N. K. Baybakov, K. F. Katushev, G. I. Marchuk, V. F. Garbuzov, N. S. Patolichev, V. P. Maltsev, Ya. P. Ryabov, who are members of the USSR delegation at the 34th CEMA session meeting.

On the Czechoslovak side--J. Kempny, V. Hula, R. Rohlicek, J. Simon, A. Barcak, L. Supka and others.

CSO: 5100

BRIEFS

CEMA PLANS FOR REACTORS--The socialist countries are making plans for joint production of fast neutron breeder reactors. Cooperation in this sphere is the subject of a meeting of the Council for Mutual Economic Assistance held in Gradec Kralove, Czechoslovakia. The meeting is devoted to the use of atomic energy for peaceful purposes. The plans involve the construction of 1.6 million kilowatt reactors which will later reach 3 million kilowatts. Fast neutron reactors require one-fiftieth of the fuel consumed by ordinary reactors. Atomic power plants functioning in the socialist countries are very reliable. Not a single accident has been recorded in their work so far. [Text] [LD161320 Moscow World Service in English 1600 GMT 12 Jun 80]

CSO: 5100

BRIEFS

NUCLEAR POWER ENGINEERING--Warsaw, 19 June, PAP--A plenary session of the State Council for the utilization of atomic energy was held in Warsaw on June 19. It was devoted to economic aspects of the development of nuclear power engineering in Poland. The cost analysis of obtaining electric energy from conventional and nuclear power stations was carried out, which proved the necessity to speed up the construction of nuclear power stations in Poland as the cheapest source of energy. Another important aspect for the development of nuclear power engineering is the fact that nuclear power stations are less harmful for the environment. The planned development of this branch of energy production, it was stressed in the debate, also calls for a technological advancement of this country's engineering industry which produces installations necessary for new branches of power industry. [Text] [LD192350 Warsaw PAP in English 2109 GMT 19 Jun 80]

CSO: 5100

ARGENTINA TO AID IN BOLIVIAN NUCLEAR PLAN

PY171757 La Paz PRESENCIA in Spanish 12 Jun 80 p 13

[Text] The Bolivian Nuclear Energy Commission (COBOEN) has guaranteed the installation of a "subcritical assembly" which will be used to produce neutrons, conduct research and train personnel. The installation of this assembly will pave the way for the construction and operation of a nuclear power reactor.

On 6 June COBOEN Executive Director Antonio Rondon, acting on behalf of the Bolivian Government, signed with the Argentine Atomic Energy Commission the so-called "1980 action plan" which guarantees the installation of the subcritical assembly. Bolivian experts will travel to Buenos Aires in July in order to plan and design the nuclear assembly jointly with the Argentine experts. The action plan also provides for the training of Bolivian technicians in the field of nuclear energy. Special scholarships have been granted for chemistry, geology, mining and nuclear energy laws. The action plan also includes the lending of special machinery for the exploitation of the Cotaje uranium deposit which COBOEN is currently exploiting. Rondon said that his visit to Argentina had been successful.

The second phase of this action plan provides for the installation of a nuclear power reactor of between 3 and 10 mw. Rondon reported that there are two options for the installation of this reactor. The first of these options is to purchase a 3-mw reactor which costs between $12 and $15 million, which would be designed and then built by Bolivian technicians.

The executive director of COBOEN indicates that the second option is to install a 100-kw reactor which, together with the preceding one, will be used to conduct research on the peaceful uses of nuclear energy. The costs of this reactor would be between $1 and $3 million. This reactor would be purchased and then installed in such a manner that will make it difficult for national technicians to participate in its designing and construction. The first option would engage 50 national technicians and the second option would engage only 20. The deadline established for the training of the personnel and the installation of either of the two above-mentioned reactors is 5 years.

CSO: 5100

ITALIAN MAGAZINE GIVES DETAILS ON NATION'S URANIUM RESEARCH

Rome NOTIZIARIO COMITATO NAZIONALE PER L'ENERGIA NUCLEARE in Italian May 80 pp 86-87

[Article by Maria Luisa Perilli: "Uranium Exploration and Production in Argentina"]

[Text] Exploration for uranium in Argentina began in 1938 by the efforts of several public organizations; since 1956, all these activities have been absorbed and coordinated by the present National Atomic Energy Commission (CNEA).

According to the most recent estimates, the reasonably assured uranium reserves total 22,950 tons of U, in the cost category of <\$80 per kg of U, and 5,100 tons of U in the cost category between \$80 and \$130 per kg of U; other resource estimates are, respectively, 3,800 and 5,300 tons of U.

In the cost category of \$180 per kg of U, the reasonably assured uranium resources total 2,550 tons of U, and the supplemental resources, 3,800 tons of U (Table I).

Table I. Argentina's Uranium Resources (tons of U)

Reasonably Assured Resources			Estimated Additional Resources		
<\$80 kg/U	\$80-\$130 kg/U	\$180 kg/U	<\$80 kg/U	\$80-\$130 kg/U	\$180 kg/U
22,950	5,100	2,550	3,800	5,300	3,800

As regards the speculative resources--that is, the country's uranium-bearing potential--the CNEA has identified several areas geologically favorable to the presence of uranium mineralization, estimating their resources at 270,000 tons of U_3O_8. The probable distribution of these resources appears to be 200,000 tons of U_3O_8 in arenaceous deposits of the upper Paleozoic, the upper Mesozoic and the Tertiary, and 70,000 tons of U_3O_8 in Philonian deposits of the middle Paleozoic, the Permotriassic and the Tertiary.

Sierra Pintada. A view of the Tigre uranium deposit.

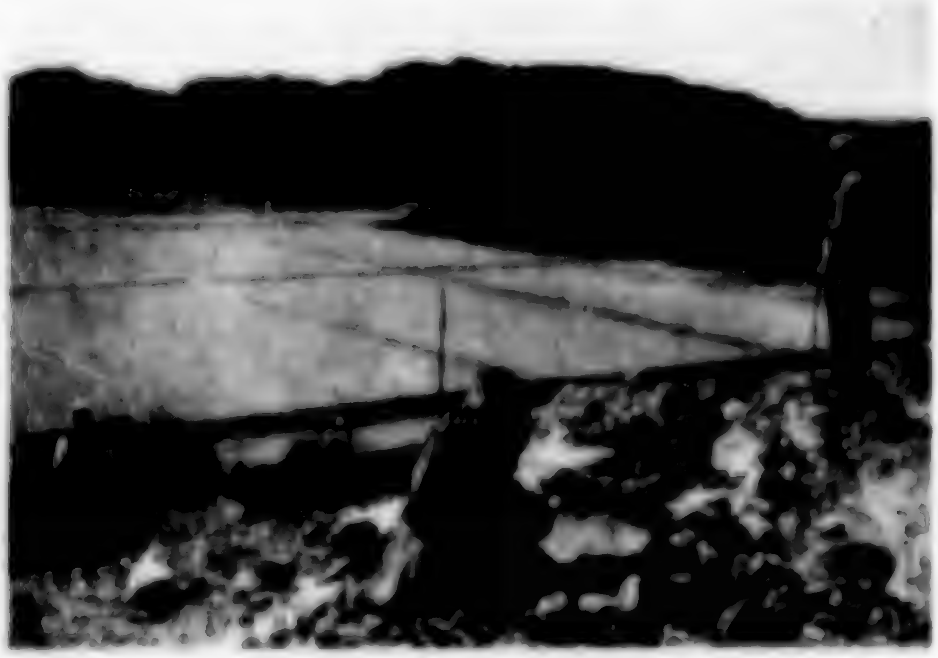
In 1979, Argentina spent about $6 million for the uranium exploration programs.

Three installations for uranium production are presently in operation in Argentina: Malargue, in Mendoza Province, with a production capacity of 60 tons of U per year; Don Otto, in Salta Province, with 40 tons of U per year; and Los Adobes, Chubut Province, with 32 tons of U per year.

According to the forecasts, uranium production was to reach a total of 185 tons in 1979; again according to the forecasts, from 1983 to 1990 Argentina is supposed to have a production capacity of 680 tons of U (Tables II and III).

These favorable short-term and medium-term forecasts are connected with the current development of two important uranium-bearing zones: Sierra Pintada, in Mendoza Province, and Los Gigantes in Cordoba Province.

Sierra Pintada--Located 180 km south of the city of Mendoza and 25 km west of San Rafael, it presently constitutes the biggest and most promising uranium-bearing district of Argentina, with reserves estimated at a total of 16,000 tons. The greater part of the mineralized bodies is contained in sandstones of the Permian (upper Paleozoic), with uranium reserves generally of less than 200 tons of U each. The principal deposit has reserves estimated at about 11,000 tons of U, with an average content of 1,000 ppm; the thickness of the deposit in its central part reaches about 14 m. The uranium ore in fine-grain uraninite; other ores of economic importance are not present except for calcium carbonate in the percentage of 8-10.



Sierra Pintada. Area for the on-site lixiviation.

Table II

Argentina's Uranium Production

Years	tons of U (in form of concentrates
before 1975	178
1975	22
1976	40
1977	100
1978	126
1979*	185

* Forecasts

Table III

Uranium Production Capacity Forecast in Argentina

Years	tons of U
1979	185
1980	200
1981	280
1982	380
1983	680
1984	680
1985	680
1986	680
1987	680
1988	680
1989	680
1990	680

At present, only a small mineralized body is being mined, and the ore extracted is sent for processing to the Malargue plant, which is about 200 km from the mining district. A processing plant close to the main deposit, which will be opencast-mined, is planned for the near future. The mining complex should go into production in 1982-83 with a capacity of 400 tons of U_3O_8 per year, which should increase, in the following years, to 600-700 tons per year. Ores of normal content will be processed in the new plant by conventional methods, while a facility for on-site lixiviation will be installed for the low-content ore (400 ppm).

Construction and management of the Sierra Pintada mining complex will be assigned, on a 15-year contract, to the international consortium that wins the bidding.

Two international groups have submitted bids for Sierra Pintada; one of the consortiums is composed of Argentine and Canadian mining companies, and the other of national and French companies. The group that obtains the contract will sell the uranium to the CNEA, in time-periods and quantities established by the Commission.

Los Gigantes

Argentina's second uranium deposit presently under development is located in the Sierra de Cordoba, in Cordoba Province, 120 km west of Cordoba. The principal mineralized body has low U content (300 ppm).

The mineralization of recent age, with the uranium lixiviated from the surrounding granitic environment, is composed of secondary uranium ores. A second mineralized body is presently under study. Four mining companies are negotiating for exploitation of Los Gigantes.

According to the projections, the CNEA will buy the uranium concentrates produced at Los Gigantes at the price of $77 per kg of U_3O_8. The total investment in the project is estimated at $8-10 million, and production is supposed to start in 1981.

The Argentine electronuclear program provides for installed power of about 3,000 MWe in 1990. Presently in operation is the Atucha I plant, with power of 358 MWe--Argentina's first, having started operation in 1974. A second and a third plant--Atuch II and Rio III, respectively--are under construction.

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ARGENTINA

BRIEFS

HEAVY WATER PLANT--Buenos Aires, 30 Jun (NA)--It was officially reported today that the government has authorized the National Atomic Energy Commission (CNEA) to absorb the greater expenditure resulting from the construction of the Arroyito heavy water plant. The decree states that during the negotiations for the signing of the contract with the Swiss company Sulzer Brothers Limited, the two parties signed a letter of intention to authorize the immediate start of the construction "because it is essential to have the plant operating on schedule." The decree adds that since the contract is still not in force, the letter of intention must be renewed, therefore "it is necessary to increase the planned expenditures to 100 million Swiss francs to insure the continuity of the construction. [Text] [PY011820 Buenos Aires NOTICIAS ARGENTINAS in Spanish 0122 GMT 1 Jul 80]

VISITING NUCLEAR EXPERT--Buenos Aires, 9 Jul (NA)--Upon his arrival in Argentina today, nuclear expert William Server said that "nuclear energy should be developed everywhere in the world in the able manner that Argentina is doing it." William Server, who is the deputy director of Factor Control Corporation, was named by the International Atomic Energy Organization to assist the National Atomic Energy Commission (CNEA) in radiation control programs at the Atucha I nuclear plant. Server will stay in Argentina for a month, "trying to transfer all of my knowledge to the CNEA, without any reservations," as he put it upon his arrival at Ezeiza airport. [Text] [PY110133 Buenos Aires Noticias Argentinas in Spanish 2046 GMT 9 Jul 80]

HEAVY WATER PLANTS--(Noticias Argentinas)--The building of the Atucha II nuclear power plant and the Arroyito heavy water plant in Neuquen have been approved by the government, which is to go into partnership with a West German firm to create a nuclear power utility to run Argentine nuclear plants. Kraftwerk Union Aktiengesellschaft (KUA) is to hold 28 percent of the shares in the nuclear power firm, to be called Enace SA, investing 400,000,000 pesos. An official announcement yesterday also said that the National Atomic Energy Commission (CNEA) is to receive a 37 ,612,230 Swiss franc loan for the building of the Arroyito heavy water plant. It will produce 250 yearly tons of heavy water for Argentine nuclear plants. [Text] [PY221940 Buenos Aires HERALD in English 22 Jul 80 p 1]

CSO: 5100

BRIEFS

LAND FOR NUCLEAR PLANTS--President Joao Baptista Figueiredo yesterday signed a decree authorizing the expropriation of about 23,600 hectares between the cities of Peruibe and Iguape on the Sao Paulo coastal region, south of the port of Santos. Nuclear plants 4 and 5 under the Brazilian nuclear program are to be located there. The mayors of the two cities reacted against the decree, saying that "the people are disgusted, because they are against nuclear plants." [Excerpt] [PY060041 Rio de Janeiro JORNAL DO BRAZIL in Portuguese 5 Jun 80 p 1]

THREAT OF WATER CONTAMINATION--The existence of underground deposits of radioactive material at a site 20 km from the city of Itu in Sao Paulo State could contaminate the river which supplies water to that city. Itu's Mayor Olavo Volpato has been keeping this secret ever since the deposits maintained there by NUCLEBRAS [Brazilian Nuclear Corporation] were discovered by an engineer working for Itu city hall. The people of Itu learned about the existence of these deposits through local newspapers published yesterday which reported a denunciation made in the municipal chamber. The deposits are supervised by NUCLEMON [Nuclebras Monazite and Associated Elements, Ltd], a NUCLEBRAS subsidiary, which places 7 tons of radioactive material in bulk there per week. The state-run enterprise has not yet replied to the notes sent to it by the mayor of Itu. [Text] [PY091812 Rio de Janeiro JORNAL DO BRAZIL in Portuguese 8 Jun 80 p 1]

CSO: 5100

BRIEFS

ATOM BOMB DEVELOPMENT DENIAL--The Islamic Conference committee on Afghanistan will hold its second session in Geneva on Friday [20 June] and is expected to continue for 2 or 3 days. AFP, quoting the Iranian Foreign Ministry officials from Tehran, says that the meeting would be attended by the Afghan freedom fighters. They said the Soviet-backed Afghan regime of Babrak Karmal has rejected the committee's invitation to send its representative. Foreign Minister Agha Shahi has expressed the hope that the Afghanistan problem will be resolved through negotiations. He said this in an interview with BBC given after his talks with British Prime Minister Mrs Margaret Thatcher and Foreign Secretary Lord Carrington in London. The talks with the British leaders covered, among other subjects, the situation in Afghanistan. Agha Shahi strongly denied the report carried by the Western mass media that Pakistan is likely to manufacture an atom bomb and Libya has provided funds for this purpose. He said Pakistan has a limited nuclear program based on peaceful objectives. About reports that Pakistan is getting uranium from Niger, the foreign minister said this is being done within the framework of international safeguards imposed by the International Atomic Energy Agency. [Excerpts] [BK181048 Karachi Domestic Service in English 1005 GMT 18 Jun 80]

CSO: 5100

EXPERT'S MURDER TO DELAY ATOMIC PROGRAM

Paris LE MONDE in French 20 Jun 80 p 4

[Editorial: "Iraq's Nuclear Program Could Be Delayed for 2 Years, After the Murder of an Egyptian Atomic Scientist in Paris"]

[Text] After the murder of Egyptian atomic scientist Yahia el Meshad in Paris on 14 June, the Israeli radio stated on Wednesday 18 June that "it would be very difficult for Iraq to continue in its efforts to manufacture nuclear weapons." The broadcast pointed out that the "victim (who lived in Iraq and was employed by the Baghdad Atomic Energy Commission) was one of the few Arabs considered an authority in the field of nuclear energy." It thinks that "his death will delay for almost 2 years the development of atomic weapons that Iraq was planning to manufacture." According to the radio "French authorities do not dismiss either the possibility that the attack was carried out by Libyan secret servicemen, jealous of the progress made by Iraq, or the possibility that it was an Israeli operation."

A few days ago, the chief of the Israeli military information service, Gen Yehoshua Saguy, said in interview: "Iraq will probably have an atomic weapon by the mid-1980s, which will create a completely new situation in the region."

Was the "qualified contact" of the Atomic Energy Commission a specialist in nuclear arms? That is what the Israeli radio claims. But one thing is certain, that Yahia el Meshad was a nuclear reactor specialist. A graduate of the University of Alexandria, with a PhD (masters in America) in nuclear engineering, Yahia el Meshad did part of his research work at the Moscow Institute of Energy before becoming head of the engineering department for reactors at the atomic installation in Cairo. As such, he worked on problems of physics in reactors, on problems of instrumentation, and kinetics in nuclear reactions.

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CSO: 4100

INTELLIGENCE CHIEF COMMENTS ON TERRORISM, NUCLEAR ARMS

Nuclear Option 'Becoming Real'

TA082043 Jerusalem Domestic Television Service in Hebrew 1900 GMT 8 Jun 80

[Interview with the director of Israel's military intelligence, Maj Gen Yehoshu'a Sagi by military correspondent 'Amiram Nir; date and place not given--videotaped]

[Text] [Question] Major General Sagi, yesterday the IDF liquidated a terrorist squad that tried to penetrate into Israel from Jordanian territory. Are there any indications that Jordan is going to open its border to anti-Israeli terrorism?

[Answer] No, not in the military sphere. That is, we have not noticed signs of military cooperation between Jordan and the terrorists. We have not noticed signs of Jordan granting permission to terrorists to cross into our area. Nevertheless, the attractiveness [word in English] of the Jordanian border has never diminished or disappeared. This is the best, most convenient border for terrorist penetration since through it the terrorists can easily and quickly reach concentrations of sympathetic Arab population in the territories.

[Question] In general, has terrorism against Israel increased?

[Answer] Yes. I also think that the problem is not one of military or organizational maturity on the part of the terrorists. The more poignant and dominant the Palestinian question becomes, the greater the Palestinians' political need to stress their existence in the manner they know: terrorism. Therefore, I believe that terrorism, at least for political reasons, will increase in the coming year.

[Question] Major General Sagi, in an area such as ours it is probably difficult for the intelligence organization to make even short-term assessments. However, we still want to hear your assessment for the coming decade. Do you believe nuclear arms will be introduced into the Middle East in the 1980's?

[Answer] I cannot tell whether this will happen. However, the option for this is starting to become real. The very fact that Iraq is aiming at a powerplant which contains enriched uranium may indicate that Iraq is indeed aiming at getting nuclear arms in the future. If this is our point of departure careful calculations may point to the mid-1980's as a possi- [illegible] for such a development.

Further Details

TA090950 Jerusalem JERUSALEM POST in English 9 Jun 80 p 1

[Article by Hirsh Goodman]

[Text] The chances of a war in this region will decrease over the coming year, but Israel will have to cope with significant political changes, according to the OC [officer commanding] military intelligence, Maj Gen Yehoshu'a Sagi. He was speaking to military correspondents in Tel Aviv on the eve of Intelligence Corps Day.

Sagi said part of the intelligence community's reorganization would mean closer cooperation between the various branches of the intelligence network.

Also, he said, air and land intelligence will be coordinated and centralized with the central intelligence body, lessening the independence the branch networks have enjoyed up to now.

The reorganization was undertaken because of the peace agreement with Egypt and also to cope with the changing nature of the threat Israel faces, Sagi said.

The wider use of airborne and mobile systems, he said, as opposed to the static stations of the past, will offer greater mobility in deployment as the threat changes and will save the Defense Ministry a fortune in infrastructure spending if the network has to go through a basic reorganization again.

Sagi, in reply to a question, said that in the coming year he foresees a possible conflict between Egypt and Libya, and a significant exertion of influence by Iraq. He saw closer Saudi Arabian and Jordanian relations with Iraq, as well as between Iraq and the United States. He said that Iraq was working persistently toward acquiring a nuclear capacity, and it was possible they might attain it within the next decade.

He also saw further destabilization on the Iraqi-Iranian front and a growing danger to President Hafiz al-Asad's continued control of Syria. He noted that the Soviets of late had been withdrawing their advisers from Syria, rather than expanding their presence there.

Sagi said one of the main problems facing the intelligence community is finding the right kind of manpower. There is a shortage of Arabists, he complained, and added that it takes 3 years to train a technician. Over 50 percent of the force, he said, is female, including several officers up to the rank of full colonel.

Sagi concluded that he knew of no significant Egyptian infractions of the Sinai peace accords.

CSO: 5100

BRIEFS

URANIUM PRODUCTION--Transportation and Communications Minister Ben Jomaa announced that Tunisia will, beginning November, extract uranium from phosphoric acid. "We will produce 120 tons of uranium annually, giving us the equivalent of 2 million tons of petroleum," he added. The phosphoric acid will be transported from Gabes to Europe by a special ship, the "Ghannouch", which measures 117 m in length and 17.30 m in width, gross registered tonnage 4,600 tons, speed 15 knots, operated by the Gabes-Chimie Transport shipping company. [Text] [Tunis LA PRESSE DE TUNISIE in French 12 Jul 80 p 4]

CSO: 5100

BRIEFS

GEORGIA AES PLAN--Tbilisi, 30 June (TASS)--The industry of Georgia has prefulfilled the plans for the first 6 months of the year. This is reported by the republic's Central Statistical Administration. Almost 50 million rubles' worth of products have been manufactured in excess of plan since the beginning of the year. Commenting on this, the deputy chairman of the Georgian Council of Ministers, Valeryan Badachkoriya, said that 85 percent of the increment in production has been obtained as a result of higher labor productivity. One of the factors which ensures stability in the Georgian industry is the powerful energy base. All hydro and thermal power stations generate around 30 billion kilowatt-hours of electricity per annum. The republic fully meets its own demands for power and transmits electricity to Armenia and Azerbaijan. "However by the year 1985 Georgia could experience a shortage in electricity as a result of the development of energy-consuming industries. Taking this into account, the republic's government has adopted the decision to build a large AES." [Summary] [LD301244 Moscow TASS International Service in Russian 0836 GMT 30 Jun 80]

CSO: 5100

OVERCAPACITY OF URANIUM ENRICHING FACILITIES ANALYZED

Hamburg DER SPIEGEL in German 7 Jul 80 pp 173-174

> [Text] Uranium enrichment in Western Europe is proving to be a misinvestment of billions: the atomic industry is producing more fuel than the nuclear power stations need.

For 2 decades, the Americans held the monopoly of the supply of fuel for the West European nuclear power stations, the "enriched uranium" used in the popular light water reactors.

In the early seventies, the Europeans decided to spend billions to break this monopoly.

--France built the Tricastin uranium plant, in the Rhone valley, and located south of the nougat capital, Montelimar, near its Pierrelatte military atomic center. Spain, Belgium and Italy had financial shares in this company, called Eurodif, which finally also included the participation of the former ruler of Iran, Reza Pahlavi (with a 10-percent share).

--England, Holland and the FRG formed a triple partnership with the company Urenco, which was to produce nuclear fuel material by technical new means.

Whereas Eurodif in Tricastin separates the fissile material U 235 from the heavier uranium particles in giant pipe complexes with innumerable pumps and filters (gas diffusion method), in the Urenco plants, it was to be enriched to the concentration needed for reactor operation by means of thousands of ultracentrifuges. The Urenco centrifuges, connected with each other in cascades up to thousands of units, were installed in the Capenhurst plant in Liverpool and Almedo on the Dutch-German border.

But the European uranium plant operators, using different methods and with the same belief in the future of atomic energy, were hoping to take over, also, a part of the world market, by supplying enriched uranium to Third World reactor operators.

But now, 2 years after production began in Tricastin, and 3 years after the first Almelo cascades started to operate, "the position changed dramatically," according to a recent issue of the U.S. technical magazine "Chemical and Engineering News."

On both sides of the Atlantic, the supply already exceeds far the demand: of a total capacity, now amounting to 29,400 tons of so-called uranium separative work (Uta), this year, in any case, only half is used to stoke the nuclear reactors. Since this year's orders only cover half the supply, enriched uranium must remain, so to speak, on the stockpiles.

In this connection, Eurodif and Urenco had once been promised magnificent deals. In 1972, the American Atomic Energy Commission (AEC) had estimated that by 1980 atomic reactors with altogether 270 gigawatts (million kilowatts) of electricity would be installed. Already 10 years later, more than 4 times as many reactors with altogether 1,100 gigawatts would be operating in the Western nuclear power centers.

The optimistic AEC top analysts in 1972 had indeed never dreamed of declining atomic growth rates, antinuclear protests, accidents like that of Harrisburg and delayed nuclear power station building.

Actually, in 1980, according to a study of the Hanau uranium and plutonium processing plant "Nukem," reactors with altogether only 117 gigawatts of capacity are operating, not even half of the estimated figure. For 1990, the West German atomic experts are revising the AEC values even more patently: as reported by the Nukem director Manfred Stephany at a Nuclear Fuel Congress in New Orleans, the Hanau experts estimate that there would be altogether only about 290 nuclear reactors of the size of Biblis in the Western World, 350 gigawatts, or just one-third of what the Americans had expected.

Be that as it may, as Uranium Manager Stephany announced in New Orleans, there would still be far too much enriched uranium for reactor fuel.

In 1990, the Nukem experts estimate, there will be at least 110,000 tons of surplus uranium separative work. The losers will be mainly the Eurodif contract partners, whose plant in the Rhone Valley will only then be reaching its full capacity, 10,800 Uta tons, sufficient to operate 100 nuclear power stations of the Biblis I type, allocated to the Eurodif partners, who had undertaken to purchase it proportionately to their owner shares.

But the individual partners are not in a position to dispose of such quantities of fuel on the world market, nor of consuming it themselves. The Eurodif pact is particularly costly for Italy, whose flirtation with atomic energy has cooled off.

On the peninsula, so far only six commercial nuclear power stations are operating, or are still being built, with the relatively modest power of 3,400 megawatts. This was not the least reason why Rome reduced its original

25-percent Eurodif share in the middle of the month before last, selling the French 9 percent. But with a 51.8 percent share (and corresponding disposal obligation) France, though well equipped with nuclear power stations, will now have a surplus supply of enriched uranium.

Furthermore, the 10-percent share partner, Iran, can no longer be considered as a purchasing country. After the fall of the shah, the Iranians stopped all reactor construction, and furthermore, as was recently explained by Foreign Minister Sadegh Ghotbzadeh, they wish to withdraw "irrevocably" from Eurodif.

On the other hand, the Urenco countries have their centrifuge technique to thank for the fact that they are not so hard-hit by the worldwide surplus. Unlike the Tricastin gas diffusion unit, whose filter units can be maintained economically only for an annual production of 10,000 tons, the uranium accelerators of Urenco are much more flexible.

The ultracentrifuges connected one after the other can be operated in accordance with the actual needs, and have a lower capacity than the Tricastin plants.

The output of a third Urenco plant, which is presently being built in Gronau in Westphalia can still be handled, according to Nukem manager Stephany. Along with the centrifuges in Capenhurst and Almedo, its capacity will only rise to 2,000 tons in 1985, as compared with the 10,000-ton uranium separative work, which had been planned years ago at Urenco.

But the reduced program does not prevent the prices of enriched uranium from rising greatly. On one hand, because of the smaller number of units, the centrifuge costs are necessarily increasing. On the other hand, the lower production rate in the smaller units is not so economical as would have been the case for larger series of centrifuges.

The stock of unsaleable nuclear fuel may even become greater, if besides Japan, the possible purchasing countries of South Africa, Brazil and Australia decide to enrich the uranium themselves for their own consumption.

Atomic manager Stephany prophesies that the world market will then shrink even further. Only the nuclear dwarfs Sweden, Switzerland, Mexico, Yugoslavia and the Philippines would remain as potential customers, and by the end of the century, they would produce only 5 percent of the nuclear electricity of the West.

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BELGIANS POLLED ON NUCLEAR ENERGY PROBLEM

Brussels SPECIAL-L'EVENTAIL in French 20 Jun 80 pp 27-30

[Article: "The Belgians and Energy"]

> [Text] The investigation that has been opened in Chooz in the French department of Ardennes has replaced the nuclear energy problem on the front page of the newspapers. We asked the ICSOP (Public Opinion Poll Advisory Council) to conduct an inquiry as the feelings of Belgians on this subject.

The inquiry was conducted with a sampling of 2,186 Belgians, distributed as follows:

Brusselois: 50
± 80 persons for each administrative district of Flanders and Wallonia.

Results were weighed in terms of the respective importance of the populations of the country's three regions.

Faith in New Discoveries

The first question was a general one:

"If energy problems diminish will this be due to new discoveries?

	Yes	No
French speaking	80.2	19.8
Females	81.9	18.1
Males	78.4	21.6
Dutch speaking	85.3	14.7
Females	87.5	12.5
Males	83.1	16.5

Nuclear Energy

The second question:

> "If energy problems diminish, will this be due to the development of nuclear energy?"

	Yes	No
French speaking	70.5	29.5
Females	70.2	29.8
Males	70.8	29.2
Dutch speaking	71.3	28.7
Females	69.8	30.2
Males	72.6	27.4

Other Energy Sources

The third, fourth and fifth questions were written as follows:

> "If the energy problems diminish, will this be due to the development of solar, hydraulic or wind energy?"

		Yes	No
French speaking	Solar	65.0	35.0
	Hydraulic	54.0	46.0
	Wind	47.3	52.7
Females	Solar	66.6	33.4
	Hydraulic	53.9	46.1
	Wind	48.7	51.3
Males	Solar	63.5	36.5
	Hydraulic	54.1	45.9
	Wind	46.0	54.0

[Table continued on following page]

questions three, four and five:

		Yes	No
Dutch speaking	Solar	71.9	28.1
	Hydraulic	53.1	46.9
	Wind	50.3	49.7
Females	Solar	72.8	27.2
	Hydraulic	54.8	45.2
	Wind	50.6	49.4
Males	Solar	71.0	29.0
	Hydraulic	51.4	48.6
	Wind	50.0	50.0

One solution: Conservation

A sixth question was written thus:

"If energy problems diminish, will this be due most of all to conservation?"

	Yes	No
French speaking	59.9	40.1
Females	60.0	40.0
Males	59.8	40.2
Dutch speaking	61.2	38.8
Females	64.6	35.4
Males	57.8	42.2

Some comments

Public opinion very clearly opts for technologic development as a remedy for the energy problems.

It firmly places its hopes on new discoveries and advanced technology, either nuclear or solar.

the Flemish are even firmer than the French speakers.

It is curious to observe that conservation is at the pivot point between the latest technology and traditional energy, whose score is relatively low.

Belgians, then, are in favor of a dynamic of progress, at least at first glance.

More in-depth examination reveals:

When "advanced" technology is concerned:

Significantly, women as well as men, French speaking as well as Flemish, more often believe in new discoveries, nuclear and solar energy.

Age does not determine the choice, those opposing the various energy sources show up in different age brackets.

In general, the least privileged social classes are among the most skeptical about technologic progress; this skeptical attitude is also sometimes evidenced by employees of the public sector (especially in nuclear energy).

Income does not explain the choices except in the matter of solar energy, where it seems to be somewhat associated with income; this type of energy receives the special favor of farmers.

When conservation is concerned:

It attracts the more young people between 15 and 25 and the most elderly, over 60, in general.

On the Flemish side, it is also more attractive to unskilled workers and farmers.

When traditional types of energy are concerned:

The lower classes, on the Flemish as well as the French speaking side, show the most skepticism with regard to renewable energy; this attitude is also quite widespread in low-income French speakers.

Wind energy, rejected by a quite clear majority, is not shown to be "privileged" by certain classes.

The final determination: the public is very eclectic in its choice of a solution.

This being the case, where does the "nuclear-solar" conflict stand?

To find out it is necessary in the first place to measure the degree of sympathy or antipathy on the part of the public toward nuclear energy.

> "Are you very favorable, ± favorable, ± unfavorable, very unfavorable to nuclear industry?"

In percent	Very fav.	± fav.	± unfav.	Very unfav.	No rep.*	=100
Dutch speaking	19.8	35.7	23.5	18.0	3.0	100
French speaking	16.5	41.8	19.3	22.4	0.0	100

*[expansion unknown]

On the French speaking side, 58 percent of the persons questioned say they are in favor of nuclear energy, in varying degrees; 42 percent say they are not in favor.

The two extreme camps are of similar proportions: very favorable, 17 percent; very unfavorable, 22 percent.

Examined from another angle, it is also apparent that a 61 percent majority (± favorable and ± unfavorable) give a rather hesitant opinion.

On the Dutch speaking side, a 55 percent majority is favorable.

The extremes are in the same proportion as on the French speaking side.

Men in general are more favorable. We recall that, conversely, more women see nuclear energy as an inevitable solution.

Young people demonstrate very paradoxical positions: among them we find the highest "favorable" scores and, conversely, the most "opposed."

Young people decide one way or the other and fewer of them are hesitant than among the others.

Workers in general and unskilled workers in particular are the most aggressive elements with respect to nuclear power, and in a very clear way: 33 percent radical opposition among unskilled workers.

Is there really opposition, then, between nuclear and other possible sources of energy?

Nuclear and Other Energy Sources

Analyzing the positive answers given to the various questions by persons classified in terms of their position on the subject of nuclear energy, the following table may be established:

	New Discov.	Nuc.	Solar	Hydraul.	Wind	Con-servation
Very favorable to nuclear	52.2	86.9	60.0	57.4	58.5	48.6
± favorable	[illegible]	85.5	70.8	57.2	49.3	65.7
± unfavorable	41.7	67.1	70.4	56.6	52.1	60.7
Very unfavorable	72.8	37.7	62.3	55.0	52.7	58.1

Among those most often opting for new discoveries we find they are also most often the most favorable to nuclear energy.

Among those who most often opt for nuclear energy, we obviously find those who are favorable in the greatest number, but also 67 percent of those who are ± unfavorable and 38 percent of those who are positively opposed.

Curiously, we find a majority which does not believe in conservation among those who are very favorable to nuclear energy. The same very clear majority of the same individuals with regard to wind energy.

Whereas--and this is very important--a clear majority of the persons favorable to nuclear energy is also favorable to solar energy.

The score of the "nuclears" favorable to "solar" is almost identical to that of the "antinuclears."

Conversely,

The majority of those who pin their hopes on solar energy are also favorable in varying degrees (59 percent) to nuclear energy!

Public opinion, then, does not enter into this apparent "nuclear-solar" conflict. Quite the contrary! It most often pairs the one with the other.

In this area also it manifests its sense of responsibility and, as in its attitudes toward the political world, it rejects simplistic slogans that have been stamped out; attempts are too often made to impose such slogans because the public's ability to analyze is underestimated.

Among those who say that if energy problems lessen	Very fav.	± fav.	± unfav.	Very unfav.	Total=100
This will be most due to development of solar energy	15.7	43.2	20.7	20.3	100
This will not be due to development of solar energy	21.2	36.1	17.6	25.1	100

8946
CSO: 3100

I-POWER FIRM BEGINS TEST BORINGS FOR WASTE STORAGE

Helsinki UUSI SUOMI in Finnish 27 May 80 p 6

[Article by Pirjo Tuusa: "Borings Begin at Loviisa, Nuclear Power Waste to Be Stored in Rock"]

[Text] Imatra Power will begin experimental borings during this week on the property of the nuclear power plant at Loviisa. Three 100-200 meter deep holes will be bored into the rock. These holes will be used to study the permanent storage of low- and medium-active nuclear wastes in foundation rock. The same kind of experimental borings will be begun later in the summer at Olkiluoto.

The first hole at Loviisa will be bored on the island of Hastholmen approximately 300 meters from the reactor building.

"The quality of the rock, its density and porousness, the quality of the water in the rock, and the water flow in the foundation rock will be studied by means of sample drillings," states Imatra Power's Chief Geologist Reijo Gardemeister.

The research holes will be quite narrow, their diameter will fluctuate from 56 to 66 millimeters.

"The whole study will last approximately 3-4 months and the final report should be ready by the end of the year," states Gardemeister.

Only at Loviisa

Imatra Power will be doing rock studies only on the property of the nuclear power plant at Loviisa. Before the nuclear wastes will be stored in the foundation rock, low- and medium-active wastes will be made solid. Presently most of the medium-active waste is in a liquid form and approximately 7,000 liters of such waste has accumulated. This waste is primarily composed of evaporation waste in radioactive processing water.

Imatra Power's plans to solidify this waste include the depositing of liquid waste in concrete.

Medium-active wastes will become safe after several hundred years.

"According to the initial plan approximately 150,000 cubic meters of storage area in the rock will be needed for the power plants at Loviisa," states Gardemeister.

The area to be carved out of the rock would be slightly larger than the total area of the Diet Building with its new addition.

"Besides a storage area for waste it will also include additional storage for disassembly waste, which will result from the power plants at Loviisa when they are finally disassembled and retired from use," states Gardemeister.

This summer only the storage of low- and medium-active wastes will be studied by means of the drilling at Loviisa according to Gardemeister.

The nuclear power plant's most difficult waste, spent fuel, will according to an agreement be transported from Loviisa to the Soviet Union. The individual points of the agreement are still, however, open, the first consignment should be shipped in 1981.

Spent fuel at Loviisa I, which has been in operation for 4 years, was transferred from the reactor building for the first time to a so-called temporary storage facility 1 month ago.

"This temporary storage facility still has room for approximately 4-5 years' worth of waste," states Anders Palmgren, operations chief of the Loviisa power plants.

Soundness of Rock to Be Studied

Studies on the foundation rock at Eurajoki, which is located on the property of the Olkiluoto Nuclear Power Plant owned by Teollisuuden [Industrial] Power, will begin in the late summer.

"There is no detailed plan as yet," states Olkiluoto's Technical Director Esko Haapala.

"The density and soundness of the foundation rock, its suitability to the storage of medium- and low-active nuclear wastes, among other things, will be studied by means of borings into the foundation rock," states Haapala.

Olkiluoto has at this time approximately 300 barrels of low-active waste, which is stabilized in bitumin and as such is ready to be stored in the foundation rock.

"There is still enough surface room for approximately 3-4 years," notes Haapala.

Approximately 400-600 barrels of waste stabilized in bitumin will accumulate annually for eventual storage in the rock.

50-100 "Private Homes"

"Approximately 5,000-10,000 square meters of housing space will be needed in the rock. The storage area will be built as the need arises," states Haapala.

One of the solutions in the storage of low-active nuclear wastes is burning.

"We are interested in burning plant located in Studsvik, Sweden.

"But the construction of our own plant would not involve too great of an investment, a few million markkas," calculates Haapala.

The ash from the burned waste amounts to approximately one-twentieth of the original amount of waste. As far as its storage is concerned the same measures would be required as for the medium-active waste -- the waste would become safe only after several hundred years.

The studies on the foundation rock are centered around these two possibilities for storing nuclear waste.

The fate of the spent fuel at Olkiluoto will also be studied. The first amount of spent fuel was transferred to a temporary storage facility during the current maintenance year. There is enough storage space to last until 1990.

The State Technical Research Center has completed its report concerning the storage of spent nuclear fuel. It is based on foreign literature.

"According to experience to date spent fuel rods can be stored without any problem for at least 20 years in a temporary storage facility," states Doctor of Engineering Seppo Vuori of the nuclear power engineering laboratory in the VTT [State Technical Research Center].

"This long-term experience is, however, based on a low-burning fuel which is no longer used in present reactors. Today's spent fuel presents more Problems, but even its storage will not present any significant difficulties," states Vuori.

"In any event the risks involved in the storage of wastes are smaller than the risk of a reactor accident."

Corrosion Is Biggest Problem

According to Vuori corrosion, which could destroy the metal skin of the fuel rods stored in water, could become a problem.

"However, the corrosion problem is easier to control than, for example, the possible risks involved in the operation of the fuel rods in the reactor."

VTT researchers will not be studying the storage of nuclear wastes into rock in the field. The work will take place on paper, by constructing mathematical models, among other things, for the studies to be conducted by the nuclear power plants.

"However, we will not be planning models for the storage of a certain kind of nuclear wastes. They are to be applied to the storage of low- as well as highly active wastes resulting from nuclear fuel," notes Vuori.

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CSO: 5100

TEST OF LOVIISA I REVEALS NEW PROBLEMS

Helsinki HELSINGIN SANOMAT in Finnish 7 Jun 80 p 3

[Article: "New Damages Appear at Loviisa I, Fuel Rod Vessel Was Expanded"]

[Text] One of the fuel rod vessels in the no. I unit of the Loviisa Nuclear Power Plant has expanded. The expanded vessel, which was removed from the reactor during maintenance, was difficult to replace in the storage tank.

The condition of the fuel element vessel is of significance since changes in shape can damage the fuel rods inside the vessel. If the changes in form damage the protective covering of the fuel rods, the highly active nuclear fuel can come into contact with the cooling water and thus pollute it.

There are a total of 349 fuel elements in the reactor of the no. I unit, which was built by the Soviet Union. In each element there are 126 fuel rods.

A commission has been set up to study the changes in form observed in one of the fuel elements. Imatra Power as well as the Radiation Safety Institute are being very cautious in evaluating the cause of the change. Licentiate in Engineering Antero Tamminen of Imatra Power does not want to comment on the matter. Director Tapio Eurola of the Reactor Safety Section of the Radiation Safety Institute also does not want to make any statements as to the probable cause. "The defects in the fuel element will, however, be closely examined," states Eurola.

According to the experts the basic reason is primarily a design error.

Loviisa I is currently undergoing annual maintenance, during which the core of the reactor will be disassembled.

When the reactor is reloaded, 36 of the reactor's original 349 fuel elements will be replaced with metal imitations. This change will slow down the brittling process of the pressure vessel.

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STATISTICS ON LOVIISA I POWER PRODUCTION ANNOUNCED

Helsinki HELSINGIN SANOMAT in Finnish 14 Apr 80 p 24

[Article: "Loviisa I Electric Production Valued at 1.2 Billion"]

[Text] The Loviisa I nuclear powerplant has produced 10 billion kilowatt-hours of electric power. The value of this amount of power is about 1.2 billion markkas. Altogether this amounts to about 30 percent of Finland's total annual production of electricity, according to the Imatran Voima Oy (IVO) power firm. The cost of construction of the Loviisa I plant was about one billion markkas.

The annual maintenance phase lasting about a month will begin at the plant at about the middle of May 1980. One third of the nuclear fuel will be replaced during this operation.

Possible damage in the internal surface anticorrosion layer of the pressure container will be charted by experts from the Kraftwerk Union (KWU) as part of the operation. That information will be fed into the memory bank of a computer for future use in evaluating the condition of the pressure container.

The Loviisa I plant first began to produce electricity in February 1977 and commercial use of it began in May. Until end 1979 the plant operated at 92 percent of its capacity in keeping with the limit set for it by the radiation safety authority. This limitation was necessary because the behavior of the fuel rods was not yet then known well enough.

The production losses at the Loviisa I plant have arisen mainly from the annual maintenance operations. Until the end of 1979 the maintenance operations had accounted for 8.3 percent of the theoretical total capacity. The limitation on capacity accounted for 7.7 percent. Technical disturbances have taken 2 percent and the interruption caused by flaws in the keying bolts took 2.1 percent of the total capacity.

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BRIEFS

NUCLEAR HEAT PLANT STUDY--Approximately one third of the power needs of a central heating system for Helsinki and its environs could be met by a nuclear powerplant of a capacity of 800 to 850 megawatts according to a study made by the Helsingin Seudun Kaukolampo Oy [Helsinki Area Central Heating Corporation] firm. This firm, owned by the IVO and communes of the Helsinki area, began the study two years ago. The IVO states that the study was based on conditions as they then existed. "The use of fossil fuels need not be studied in the same way because record of experience with them already exists. The idea of this huge nuclear generating plant is only an alternative research proposition without any suggestion that it ever need be carried out," according to the firm. The IVO also stresses that no decisions whatsoever have been made about the construction of such a plant and that this study represents only a single alternative in the energy concerns of the Helsinki area. [Text] [Helsinki HELSINGIN SANOMAT in Finnish 17 Apr 80 p 3] 5955

CSO: 5100

FRANCE

TECHNOLOGICAL 'LEAP' IN NEUTRON BOMB REPORTED

'Third Nuclear Generation'

WA161300 Paris LE QUOTIDIEN DE PARIS in French 7/8 Jun 80 p

[Report by Jean-Francois Mangibeaux: "Neutron Superbomb Will Have a Range of 30 Kilometers"]

[Text] France is at the point of mastering the technology necessary for the manufacture of a very high yield neutron bomb, that is, of strategic capacity. These disclosures that come to us from an authorized source are occurring at a time when experimentation on the tactical neutron bomb has practically reached its end. In the course of these tests, carried out in the Pacific, French research scientists have concluded that the era of the third nuclear generation is well on its way. What it means is that France will be in a position, in the relatively near future, to exploit, militarily or nonmilitarily, one or the other effects of a nuclear explosion of the hydrogen bomb: the heat, the blast, or the radiation.

It is estimated that at an early date, when there is radiation control, it will be possible to produce a new weapon capable of scattering neutrons over an area of some 30 km in diameter, which means a weapon of strategic orientation and no longer just tactical. It also means a technological "leap" capable of upsetting the modernization choices for our nuclear arsenal.

The defense debate going on for several weeks in France revolves around two or three central themes. Among these, the neutron bomb occupies a privileged position. Should this weapon be produced or not, this weapon that the experts prefer to call an intensified radiation bomb? This question is constantly open to discussion in the highest political and military realms. Now according to the information that has been confirmed for us by specialist circles close to the research programs, the experimenting carried out in the Pacific opens new perspectives today that can be described as revolutionary. In fact, while the tests relative to the bomb are practically finished, permitting the mass production of this device, the research scientists have come to conclusions that allow them to affirm: "France will soon be able to pass into the third nuclear generation." This does not exclude the possibility of manufacturing a neutron device with a yield bearing no possible comparison with that which is already known.

From the A-Bomb to the H-Bomb

To get a good measure of the importance of this disclosure which has obvious political and military implications, it is necessary to place it in its scientific context.

France is currently in the second nuclear generation. The first generation corresponds to what is known as the atomic bomb. At this initial stage energy is released by atomic fission. It should be noted that present-day nuclear power plants always operate by the fission of an atomic core. Now some 10 years ago, practically at the same time as the United States, France passed into the second generation, namely, that of fusion. The H or thermonuclear bomb was born. Of what does it consist? Very simply, of an A-bomb surrounded by a bubble--liquid or gaseous--of lithium and deuterium. The explosion of the central atomic bomb causes the fusion of the atoms of deuterium and lithium. Result: the releasing of energy under the form of heat, blast, or radiation. These automatic diffusions cannot be controlled with the present level of knowledge. Under these conditions, one can count on an average of only 10 or 15 percent of the emission of various particles conveyed by the neutrons and composed in part of gamma rays.

The "Fratricide" Effect

At that time, Western scientists were of the opinion that they had reached the ne plus ultra of the utilization of the atom, particularly for its military purposes. The era of the H-bomb--that effectively equips the components of the nuclear deterrent forces--should be, save for unforeseen circumstances, a definitive era. It remains to perfect, to fine-tune, the charges.

That was to be done in three directions: their miniaturization, their hardening, and their precisioning. It is in these three areas that essential research has been carried out in the past few years. Without emphasizing the miniaturization and precisioning of thermonuclear devices, points on which French research scientists have attained considerable results, the research on the matter of hardening has culminated, surprisingly, in original discoveries. We return there to a subject that concerns us. The hardening of a nuclear device involves its resistance to hostile countermeasures. In fact, to simplify a highly technical subject to the extreme: The country against which a thermonuclear bomb is launched has the capability of defusing it in flight--what the experts call the "fratricide effect"--particularly by means of a cloud of neutrons that will neutralize the device. A parry: the preliminary emission of neutrons by the device itself that literally drowns the enemy neutrons! It was then necessary to work on the capability of releasing "on command" a certain quantity of neutrons. Clearly it was necessary to control the process of nuclear fusion scientifically in order to obtain at will a neutron flux as well, even before the emissions of heat and the blast. It is while working on this program that the concept of the intensified radiation bomb, better known as the neutron bomb, was born.

But at this stage, for unknown reasons, the scientists, for whom advancing remained empirical, it is true, "stumbled" upon an obstacle: the impossibility of controlling the fusion process beyond a charge of around 1 kiloton. Thus, research proceeded on relatively weak charges (the Hiroshima bomb amounted to about 20 kilotons), and ended recently, making France, with the United States and undoubtedly the Soviet Union, a power capable of producing the famous neutron bomb.

[illegible] for [illegible]

Options [illegible] [illegible], finding, as it stands, the 'platonic' debate over the [illegible] around this new weapon. The disclosures that we are in a position to make today fundamentally alter this debate. A fantastic technological 'leap,' with the passage of [illegible] the famous 'cap' of 1 kiloton, opens up the possibility of entering a third nuclear era: that of the megaton neutron bomb, or [illegible]. This bomb would have a considerable [illegible] the [illegible] of territory affected by the radiation flux--and also an enormous yield, being capable of releasing tens of millions of neutrons. To get an idea of these achievements, we emphasize that the maximum tactical neutron bomb of the future that can be manufactured today has a range of only 800 meters and, according to the latest [illegible] estimates, would release some [illegible] million neutrons. [illegible] figure--, the N bomb could be brought to a yield of 75, 150, even 200 kilotons, which makes a strategic charge that enters straight into the deterrent realm.

Finally, according to the exclusive information at our disposal, this weapon would be [illegible] economical, 100 kilotons being capable of corresponding to the yield of 1 megaton released by an [illegible].

These new possibilities, it must be made clear, open up an infinite field for utilization of nuclear fusion because they are only the premises for control of the heat and blast effects of a [illegible] [illegible]. Hence the affirmation that we can [illegible]--a matter of several years--have the third nuclear generation at our disposal.

Obviously, in order to do this research must continue at Moruroa and in the Atomic Energy Commission. It can even be expanded if the political decisions are made to do so.

The experts whom we have consulted are of the opinion that this is a gateway to the future, as much strategic as energy related, and that, at this stage, it would be criminal to close that gateway that could assure us, on the horizon of the year 2000, of a deterrent force many times multiplied, as well as energy potentialities at a lower cost and with complete security.

'Political Debate' on Defense Affected

[illegible] Paris LE QUOTIDIEN DE PARIS in French [illegible] Mar 80 p 1

[Philippe Marcovici commentary]

[Text] The disclosures that we are in a position to make today regarding France's capacity to equip itself with a neutron superbomb of strategic range entirely upset the facts in the political debate opened up on the defense of France.

That debate was natural and necessary because on the question of armaments, which [illegible] amount to the question of the survival of the nation, the decision is political or it is not. That is why, in short, it is the chief of state and he alone who will settle it once and for all.

What can be said, however, from today on is that the controversy over the necessity of equipping France with the neutron 'bomb' began on erroneous grounds because those who led it did not exercise the virtue of patience which would bring them to settle it once and for all in full knowledge of the case, that is to say, in possession of all the information indispensable to the choice. Once again, and as is very often the case in anything that closely or distantly concerns defense, polemics triumphed over cold reason.

The essential argument that is still [illegible] today on the record of the neutron "bomb" is that it was only tactical; [illegible] did not [illegible] to make it strategic. These days are now over. The neutron weapon is revealed to be a weapon that is anti-cities, and anti-infrastructures on earth and sea. Thus, it takes the example of our deterrent force, [illegible] "forward line battle," or rather bringing it back to its true [illegible], which is that of political choice.

Formerly, there were "flexible," that is, the possibility of a flexible response, in proportion to the threat or aggression and [illegible] there were strategic missiles, that is, a deterrent by terror, implying that the price to be paid would be, for any aggressor, disproportionate with respect to the gains from his aggression.

Nothing has changed today, at least fundamentally, and the possession of the neutron bomb would leave all possibilities of [illegible]: "forward line battle" as well as the lightning flash of final destruction.

Speaking as a [illegible], one could say that the neutron "bomb" preserves [illegible] the virtues of France's [illegible] force, but that it preserves them at a lesser cost because it is that of weapons less expensive than others. Why not say it?

'L'HUMANITE' Reaction

[illegible] Paris L'HUMANITE in French 11 Jun 80 pp 1, 3

[[illegible] article: "[illegible] War?"]

[Text] As I am writing Giscard d'Estaing has just presided over a Defense Council meeting at the Elysee Palace devoted to, among other things, adopting new kinds of nuclear weapons.

It is within this context that a formidable campaign of disinformation has been orchestrated with the aid of all the mass media to secure public acceptance of the neutron bomb, while it would be more correct to call the neutron weapon or missile.

All arguments are being used, particularly the ones about the "clean bomb" or the "Christian bomb," according to one of its American inventors Samuel Cohen, on the pretext that the damage that it would cause would be allegedly restricted to human lives.

The latest of these arguments stems from a report published Saturday by LE QUOTIDIEN DE PARIS, according to which a strategic "neutron superbomb" has been tested at Mururoa. This new missile would be added to the range of deterrent weapons on the pretext of the "[illegible]" that its use would cause.

Hitherto the neutron missile has been presented, primarily by the people who created it, as an essentially tactical weapon. This is why the partisans of strategic deterrence oppose its deployment and manufacture.

By presenting the neutron missile as a "neutron superbomb," its partisans hope to remove the major obstacle to its manufacture.

How indeed could the partisans of deterrence still oppose a weapon both strategic and tactical!

But it is a clumsy maneuver.

Indeed, what would be the purpose of having a "strategic neutron superbomb"? Nuclear and thermonuclear devices already have considerable destructive power and the manufacture of a "neutron superbomb" would contribute nothing more except--and this is the essential point--to facilitate the arms race.

On the other hand, its strategic deployment is another matter entirely.

The document prepared by the French Democratic Union, the party of the president of the republic, which speaks out definitely for deploying the neutron missile, explains as follows:

"The choice is therefore clear: The organization of European defense must be conceived with a view to engaging battle with the support of numerous tactical nuclear weapons."

And within the framework of "forward battle" as defined in 1976 by the president of the republic and General Mery, the neutron missile gains its full significance. It implies abandoning the strategy of deterrence, that is, rejecting war for the sake of a conflict which the public must be made to accept at all costs.

The Communists, who reassert their desire to equip France with a real national defense, refuse to allow their country to be dragged along the path of the arms race behind Carter and NATO on the pretext of modernizing nuclear weaponry. They also reject the U.S. strategy which, with "neutron bombs," Pershing missiles and medium-range cruise missiles, aims to make Western Europe the future battlefield, thus once again excluding U.S. territory from the destruction.

To struggle for peace and disarmament and to work for real national defense are not conflicting tasks. They are the Communists' objectives.

CSO: 5100

FRANCE

AUVERGNE NUCLEAR POWERPLANT SEEN DIVIDING LEFT

Paris LE MONDE in French 9 Jul 80 p 19

[Article by Jean-Pierre Rouger]

[Text] Clermont-Ferrand--Since the beginning of the July session of the regional council of Auvergne, the plan to construct a nuclear powerplant has dominated the debates. Before presentation by prefect Claudius Brosse, to the two assemblies of the regional public establishment of the sites which could be suitable in the valley of Allier, upstream of Pont-du-Chateau (Puy de Dome), the councilors confronted one another.

The presidential majority (the majority in the regional council of Auvergne) feels that the region should not miss its opportunity. The Communist Party says that nuclear energy should be exploited just like any other kind of energy. It is advocating the use of local coal resources and the installation of a thermal powerplant in the Aumance coal basin. The Socialist Party is opposed to this pro-nuclear bloc. The construction of four 1,300-megawatt units would be dangerously compromising, the party says, for the touristic and thermal potential of the region and would discourage the effort needed for the promotion of new energies (geothermy, solar, biomass, etc.).

"If I come out again in opposition to this plan," Maurice Pourchon, socialist deputy from Puy-de-Dome, president of the regional council, since the start of the plenary session, said on Monday, 7 July, "it is not because I am taking a systematic position against this technology but simply because the electronuclear program as conceived seems unreasonable to me. It mobilizes for the benefit of a single kind of energy all the financial and technical resources possible...this is particularly serious in a region such as Auvergne."

Proposed on 15 September 1979 by the economic and social committee which is chaired by Michel Debatisse, now secretary of state for agricultural and food industries, with the support of representatives of the CGT [General Confederation of Labor] (the CFDT [French Confederation of Labor] and the FEN [National Education Federation] are opposed to the plan), the idea of a nuclear powerplant in Auvergne was taken up again on 10 March 1980 by the regional council during an extraordinary session.

The presidential majority and the Communist Party had felt that it would be prejudicial to the economic future of the region to deprive it of nuclear electricity.

Since then, everything has moved very quickly. The government decided to have a study made of the possibilities of constructing a nuclear powerplant in Auvergne. That is what the prefect announced to the members of the economic and social committee and then to the regional councilors.

On Wednesday, 9 July, or Thursday at the latest, the regional council will have to take action on this communication to which is added the plan for the radioactive waste storage center in Saint-Priest-la-Prugne (Loire), on the site of a former uranium mine belonging to the COGEMA [Nuclear Materials General Company]. The site overhangs the Vichy basin. That has led to many protests from the elected representatives of the interested communities, supported by an ecological association.

Before the regional council, Dr Lacarin, mayor of Vichy, a member of the presidential majority, did not oppose the plan for a nuclear powerplant in the Val-d'Allier "because of national solidarity." However, he emphasized not without bitterness, that Vichy would be the only thermal station in France which would have the "privilege of having a nuclear powerplant and an atomic cemetery in its immediate area."

Auvergne, the land of dead volcanoes and running waters is now experiencing it nuclear hour.

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CSO: 5100

AFTER SEVERAL DELAYS RINGHALS 3 N-PLANT TO BEGIN OPERATING

Stockholm SVENSKA DAGBLADET in Swedish 1 Jul 80 p 4

> [Text] Barring any last minute delays, the Ringhals 3 reactor will be loaded today. The loading of Ringhals 4, which really should have been in operation this year, is delayed. The primary cause is personnel shortage.

The delay of Ringhals 3 caused by the referendum cost 600 million kronor. Most of this resulted from loss of production. Increased construction costs amounted to about 120 million kronor.

Together with the delay of Ringhals 4 the costs of the delays will come to over one billion kronor. But the National Power Commission did not expect that the reactors would go into operation later than was originally planned.

The Ringhals 4 reactor is today expected to be ready for operation in November 1982.

Energy from the last two Ringhals reactors will not be more expensive than from Ringhals 1 and 2. That is because of the way that the cost figures of the two operating installations were prepared. Today the energy from Ringhals cost 10 ore per kilowatt-hour.

Ringhals 3 is ready for loading after various preparatory tests were conducted. Several weeks ago SKI [National Nuclear Power Inspection Board] gave its permission. The reactor is expected to produce steam to the turbines in August, and at the beginning of next year it will be connected into the net.

Number Four is Ready

Ringhals 4 is ready and preserved, but it will be several years before it is loaded, because of the departures of personnel from 3 during the long delays, which withdrew personnel from 4.

"We have hardly come half way to filling the personnel requirements for Ringhals 4," said plant foreman Svante Nyman. "We are looking primarily for marine engineers and technical college engineers who will train at Studsviks School.

"We need personnel who are technically and practically competent, for example from the processing industries."

Several million more kronor will be required later to complete the Ringhals installation. Among other things, construction is needed for storage, workshops, maintenance, and administration. The installation is expected to be completed in five years.

The Ringhals plant today employs 800, and this number will grow to 1,100 when all four reactors are in operation.

A group of experts who investigated cracking in the bolts in reactor 4 confirmed that the cracks were caused by the surface finishing of the bolts. No similar cracks were found in the other three reactors.

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